

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2293.—VOL. XLIX.

LONDON, SATURDAY, AUGUST 2, 1879.

[WITH SUPPLEMENT.] PRICE SIXPENCE PER ANNUM, BY POST, £1 4s.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.
Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or parts—

100 Cambrian, offer wtd.	25 Leadhills, £1 12s. 6d.	5 Santa Barbara, £2.
20 Colorado, £1 12s. 6d.	5 Llanidloes, 10s.	25 St. Harmon.
50 East Van, £1 2s. 6d.	10 Red Rock, 7s. 6d.	5 Tanvillie, £2 10s.
20 Eberhardt, £2 10s.	30 Morfa Du, 16s. 6d.	30 Van Consois and Glyn
25 Frontino, £2 10s.	100 Festarena, 4s. 6d.	10 W. Ashleton, 18s. 9d.
20 Herodfoot, £2 10s.	25 Parys Corporation, 10s.	10 Wye Valley, 12s. 6d.
50 Javali, 6s. 9d.	10 Richmond, £8 10s.	

* * SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.)

RAILWAYS—SPECIAL BUSINESS.

FOREIGN BONDS—SPECIAL BUSINESS.

Fortnightly accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE LONDON.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.
RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.
Accounts opened for the Fortnightly Settlement.
A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

50 Almada, 7s. 6d.	25 East Van, 21s.	100 Morfa Du, 16s. 3d.
10 Aberllyn, £2 10s.	40 East Caradon, 9s.	20 Mellanear, £2 10s.
100 Bodidria, £2 10s.	10 East Pool, £10.	50 Marke Valley, 11s. 6d.
40 Blue Tent, 39s.	50 Frontino, £2 10s.	25 New Quebrada, 41s.
150 Chontales, 6s. 6d.	25 Frontino, £2 10s.	100 Nouveau Monde.
5 Cape Copper, £2 10s.	20 Gorseod and Merilyn, £2 10s.	60 Port Phillip, 9s. 6d.
75 Cambrian, 32s.	100 Glenroy, 8s.	260 Festarena, 4s. 6d.
25 Chapel House, 32s.	30 Great Holway, 10s.	75 Parys Copper, 9s. 6d.
3 Carn Brea, £2 10s.	10 Gt. Laxey, £15 10s.	25 Ruby & Dunderberg.
50 Canada Gold, 32s.	25 Hultafall, 10s.	15 Roman Grav., £7 10s.
75 Don Pedro, 13s. 6d.	20 Herodfoot, £2 10s.	10 So. Frances, £8 18s. 9d.
20 Devon Consols, 35s.	75 Javali, 6s.	100 Tamar Silver Lead.
10 D'Eresby Con., 25s.	10 Kapanga, 5s. 6d.	5 Van, £14 10s.
25 East Lovell, 25s.	40 Lead Hill, 31s. 6d.	40 West Holway.
50 Eberhardt, £2 10s.	10 Minera, £10.	10 Wh. Pevor, £2 10s.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

A complete and reliable List of all the Leading Investments (published on the first of each month) may be obtained free on application to

WILLIAM HENRY BUMPUS, SWORN BROKER.

Offices: 44, Threadneedle Street, London, E.C.

BANKERS—THE NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. JONES AND HOUSTON, 25, CROSBY HALL CHAMBERS, LONDON, E.C.

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Call the attention of their clients and investors generally to the following properties, shares in which are now offering at unprecedented low prices:—

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PANT-Y-MWYN

RHYD ALYN

We court enquiry with respect to the above mines, and have most satisfactory reports to make on each, but which we cannot give at length here. We shall be happy to supply any information on application touching these or any other property or investments.

Bankers: London and Provincial.

MR. E. J. BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.

Just out,

"HOW TO INVEST," post free, One Shilling, Twelfth Edition, enlarged.

WILLIAM GABBOTT, STOCK AND SHARE DEALER,
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Bankers: The National Provincial Bank of England.

MESSRS. E. KINS AND CO.,
STOCK AND SHARE DEALERS,
14, QUEEN VICTORIA STREET, LONDON, E.C.

Bankers: Metropolitan.

MR. JOHN BATTERS, STOCK AND SHARE DEALER,
transacts Business in Stock Exchange and Mining Securities.
Special information to Investors in Lead Mines, also in Swedish, Canadian, and other securities.
4, AUSTINFRIARS, LONDON, E.C.

NOTICE OF REMOVAL.

MR. THOMAS THOMPSON, JUN., STOCK BROKER,
has REMOVED from 1, Palmerston Buildings, Bishopsgate-street, to 16, ST. SWITHIN'S LANE, E.C.

Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.
Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends upon present prices.

Mr. THOMPSON's weekly Circular may be had on application.

MR. T. E. W. THOMAS, STOCK AND SHARE DEALER,
3, GREAT WINCHESTER STREET, E.C.

Will sell the following SHARES:—

50 Bodidria, £2 10s.	20 East Van, £1.	100 Penetruthal, 1s. 6d.
5 Cabmore, £2 10s.	10 East Lovell.	50 Prince Patrick, £1 2s. 6d.
20 Cambrian, offer wtd.	50 Glyn and Van Consois	50 Novae M. nde, 18s.
50 Chontales, 7s.	United, 9s. 6d.	50 West Pevor, £2 10s.
20 Chapel House, £1 2s. 6d.	10 Great Holway.	20 Wheat Crebor, £2 10s.
50 Don Pedro, 14s.	50 Herodfoot, £2 7s. 6d.	

STOCK AND SHARE MARKETS.

Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information telegraphed instantaneous from the STOCK AND SHARE MARKETS direct into the offices of—

MESSRS. PETER WATSON AND CO.,

54, OLD BROAD STREET, LONDON, E.C.,

From 11 A.M. to 4 P.M. (Saturdays 11 A.M. to 2 P.M.) for the information of customers.

ALFRED E. COOKE,
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(Established 1848.)

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BANKERS: LONDON and WESTMINSTER.

FERDINAND R. KIRK, 5, BIRCHIN LANE, LONDON, E.C.

FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.

"THE WEEK."—A SEPARATE EDITION from that which appears in the Mining Journal is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.

Bankers: London and Westminster, Lothbury.

JOHN B. REYNOLDS, 37, WALBROOK, LONDON, E.C.

Business transacted in all kinds of Stocks and Shares at net prices—prompt cash.
Mr. R. points with satisfaction to his recommendation of WHEAL PREYOR shares at £2 per share, and has special information respecting this mine and WEST PREYOR.
(Established Twenty Years.)

Bankers—London and South-Western Bank (Limited).

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Have Agents in England, Scotland, Wales, and on the Continent.

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Established in 1861.

Bankers: Barclay, Bevan, and Co.; and London and Westminster Bank, Lothbury.

FOR SALE, the WHOLE or PART:—

100 Crebor.	100 Cwm Brywyno.	100 Glyn & Van Consois
5 D'Eresby Mountain.	50 Bwlch United.	United.
10 Mineral Corporation.	100 Penetruthal.	20 Gorseod and Merilyn.
50 East Caradon.	25 Herodfoot.	20 Monydd Gerdun.
50 Hultafall.	10 Great Holway.	3 West Cliverton.

HORNACHOS SHARES.—In a position generally to buy or sell at fair marginal prices.
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These SHARES CANNOT FAIL shortly to take a VERY IMPORTANT POSITION, and a GREAT ADVANCE IN PRICE.
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CAPTAIN ABALOM FRANCIS,
MINING ENGINEER,

GOGINAN, R.S.O., ABERYSTWITTH, CARDIGANSHIRE.

Goginan, April 8.—The present time offers an opportunity for capitalists such as, in my opinion, that is not likely to occur again for very many a long year. To those who have acted on my advice since the commencement of the present year a rise has occurred in prices of shares equal to fully 50 per cent., and to those inclined to invest there are really probabilities that every £1 now placed will realise ten times the amount before this year closes. ABALOM FRANCIS.

MR. W. J. JOHNSON, many years Chief Manager of the W.B. Lead Smelting Works, having left that establishment in consequence of the works being now entirely closed, is OPEN to an ENGAGEMENT, or to be CONSULTED on, or to UNDERTAKE, the ERECTION of PLANT of the most improved kind; and to ADVISE on the MOST ECONOMICAL METHODS OF LEAD SMELTING, DESULPHURISING, and on FUME CONDENSING.
Address the above, Morpeth.

MESSRS. D. C. DAVIES, F.G.S. AND SON, MINING GEOLOGISTS, ENGINEERS, AND SURVEYORS, OSWESTRY, in intimate that they UNDERTAKE THE FOLLOWING DUTIES in connection with Metalliferous Mines, Collieries, Slate and other Quarries, Mining Plant and Mineral Properties generally, at home and abroad.

Preliminary examinations and Surveys.
The Preparation of Plans for Systematic Working, with Supervision where required.

Periodical Surveys and Writing Up of Plans.
Valuation for Probate, Sale or Liquidation. The investigation of all matters pertaining to such Properties and Business.

The Analysis of Minerals. The highest references given
MINE OFFICES.—GOBOWEN, OSWESTRY.

MESSRS. TONKIN BROTHERS,
MINING AGENTS, SURVEYORS, AND ASSAYERS,
STANHOPE, DURHAM.

MINES INSPECTED AND REPORTED ON.

MR. JOHN L. M. FRASER
(Fourteen years at the Great Minera Mines),

CONSULTING MINING ENGINEER—SECRETARY AND AUDITOR—ROYALTY AND MINERAL ESTATE AGENT—SHAREDEALER.

MINES, MINERALS, AND MACHINERY BROKER,
GREENFIELD HOUSE, WREXHAM.

Recommends the immediate purchase of SHARES in SOUND LEAD MINES at present prices, for on a substantial rise in the price of Lead Ore they will advance cent. per cent. A select list on application.

A BARGAIN TO BE SOLD.—The lease for 21 years of a valuable SILVER-LEAD ORE and SLATE PROPERTY. Royalty 1-15th. Reports and full particulars on application.

MR. DAVID COWAN,
CONSULTING MINING AND MECHANICAL ENGINEER,
AND LICENSED VALUATOR,

55, RENFIELD STREET, GLASGOW.

Investigations, Reports, and Valuations made of Coal, Iron, Slate, Pyrites, and other properties at home and abroad. Enquiries for Road and Railway Materials, Mining Plant, Pipes, Castings, &c. Plans, &c., of the most modern and economical mining appliances, fittings, and arrangements.

I have been long acquainted with the principal Coal and Ironworks in the North, with the Slate Quarries in North Wales, and for many years was Chief Engineer of the Tharles Mines, Works, and Railway in Spain.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MR. ALFRED THOMAS,
MINING AGENT, AND STOCK AND SHARE DEALER,
10, COLEMAN STREET, LONDON, E.C.

"HOW TO TAKE ADVANTAGE OF THE COMING RISE IN PRICES."
By ALFRED THOMAS, 10, Coleman street, E.C.
Will be forwarded to Investors upon application.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

THE RICHMOND CONSOLIDATED MINING COMPANY (LIMITED).

Capital 54,000 Shares of £5 each,

NINETEENTH DIVIDEND.

Notice is hereby given, that the Directors of this company have DECLARED a DIVIDEND of SEVEN SHILLINGS and SIXPENCE PER SHARE (free of income tax), PAYABLE on and after 8th August instant, at the Company's Bankers, the Union Bank of London, Princes-street, E.C.

And notice is hereby further given, that the Transfer Books of the company will be closed from 2nd to 6th August, both days inclusive.

By Order of the Board.

HUBERT AKERS, Secretary.

Offices: 44 Coleman-street, London, E.C., 1st August, 1879.

CESENA SULPHUR COMPANY (LIMITED).

NOTICE OF DIVIDEND.

Take notice that a DIVIDEND of ONE SHILLING PER SHARE has been DECLARED, PAYABLE on and after the 1st August, 1879, at the office of the company.

Holders of warrants to bearer can receive the same in the usual manner upon presentation at the office of the company, the two coupons for the year 1878, and and prior coupons being thereby cancelled.

By Order, R. LARCHIN, Secretary.

No. 4, Finsbury-circus, London, E.C., July 28, 1879.

THE CAMBRIAN MINING COMPANY (LIMITED).

Notice is hereby given, that the THIRD ORDINARY GENERAL MEETING of the Shareholders of this Company will be HELD at the offices on Esgar Hir Mine, near Talybont, Aberystwith, in the county of Cardigan, on WEDNESDAY, the 13th day of August, 1879, at Twelve o'clock noon, when the Report of the Directors and the Accounts will be submitted to the Meeting for its adoption.

GEORGE H. KEENE, Managing Director.

48 and 49, Palmerston Buildings, London, E.C., July 28, 1879.

WANTED, an ENGAGEMENT as CERTIFICATED COLLIERY MANAGER, by a Young Man of fifteen years' experience. Good surveyor, leveller, and draughtsman. First-class references.

Address, "R. O.," care of J. H. Williamson, Goldenhill, Stoke-upon-Trent.

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Address, C. JONES, 61, Hufing-lane, Towneley, Burnley, Lancashire.

REQUIRED, by an Associate of the Royal School of Mines, F.C.S., &c., a SITUATION in a SMELTING WORKS, or on a MINE, at home or abroad. Highest references.

Address, "A.R.S.M.," MINING JOURNAL Office, 26, Fleet street, London, E.C.

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WANTED TO PURCHASE, from FIVE HUNDRED to ONE THOUSAND SHARES in above.

State lowest price to Mr. WILSON, 7, Cumberland-terrace, Finsbury Park, N.

NICKEL and COBALT REFINING and GERMAN SILVER WORKS, 16, COZZELL STREET NORTH, BIRMINGHAM.

STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—

REFINED METALLIC NICKEL.
REFINED METALLIC BISMUTH.
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NICKEL and COBALT ORES PURCHASED.

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JOHN HENSHALL WILLIAMSON, MANUFACTURER AND REFINER.
Purchaser of Borate of Lime and Tincal.

MR. WILLIAM BREDEMMEYER, MINING, CONSULTING AND CIVIL ENGINEER, U.S. MINERAL SURVEYOR FOR UTAH AND IDAHO. NOTARY PUBLIC.

Geological examinations; reports on mining properties; surveys mines, rail roads, and canals, and superintends the workings of the same. Prepares estimates and plans for opening and working mines. Expert on mining questions before the Courts.

Address, "P. O. Box 1187," Salt Lake City, Utah.

SPANISH MINES.—Advertiser is in a position to OBTAIN SOME VALUABLE GOVERNMENT GRANTS, which will PAY HAND SOME PROFITS. Parties commanding as little as £100 or £200 may apply.

Address, "Minas," Treviso, Province Santander, Spain.

SPAIN AND PORTUGAL.

MR. J. T. JOHNSON, Assoc. Inst. C.E., F.G.S., &c., CIVIL and MINING ENGINEER, late of Chester and South Wales, having joined his Brother, Mr. T. M. JOHNSON, who for the last thirteen years has been engaged in Mining in Spain and Portugal, is prepared to INSPECT PROPERTIES and CARRY OUT GENERAL MINING and ENGINEERING WORKS in those countries.

Address: CORREIO DO CORVO, PORTUGAL.

PIERCE S. HAMILTON, PRACTICAL GEOLOGIST, SURVEYOR, AND MINING ENGINEER AND AGENT, OFFERS HIS SERVICES in either of these capacities to those interested or desirous of investing in MINING PROPERTY in the PROVINCE OF NOVA SCOTIA or elsewhere in the DOMINION OF CANADA.

Having for years filled the administrative position of Chief Commissioner of Mines for Nova Scotia, and having both before and afterwards been himself largely engaged in Mining operations, Mr. HAMILTON has had exceptionally good opportunities of informing himself as to the variety, extent, and character of the mineral deposits of that Province, and as to the most economical and effective methods of working them.

ADDRESS—PIERCE S. HAMILTON, HALIFAX, NOVA SCOTIA, DOMINION OF CANADA.

THE CANADA LANDS AND LOAN AGENCY,
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Will afford gratuitously to correspondents all information, as to advantages of Settlement for Farmers with means to purchase Freehold Farms, or to Gentlemen and Private Families, giving Cost of Property, of Living, Educational Advantages, and Opportunities for Advancing Young Men in Professions or Commercial Pursuits. Also inducements to Skilled Mechanical Labour, Manufactures, and other Industries. When correspondence leads to settlement or business, a moderate compensation will be payable to this Agency.

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N.B.—Responsible parties in England and Scotland, desiring agencies there, paid by commission, will be supplied with pamphlets and maps, list, and cost of farms, town properties, mineral lands, and manufacturing and other industries new offering, on applying with references as above.

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Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1881; at the "INTERNATIONAL EXHIBITION" of 1882 and 1874, in London; at the "IMPERIAL EXHIBITION," held in Paris, in 1889; at the "INTERNATIONAL EXHIBITION," in Dublin, 1885; at the "UNIVERSAL EXPOSITION," in Paris, 1887; at the "GREAT INDUSTRIAL EXHIBITION," at Vienna, in 1889; TWO MEDALS at the "UNIVERSAL EXHIBITION," Vienna, in 1873; and, at the "EXPOSITION NACIONAL ARGENTINA," Cordoba, South America, 1873.



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PATENTERS of SAFETY-FUSE, having been in-
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fuse not of their manufacture, beg to call the attention of
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EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE
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Miners' Shovels, Railway and Miners' Picks,

Steel-pointed Spades and Shovels, Draining and Grafting Tools, &c.
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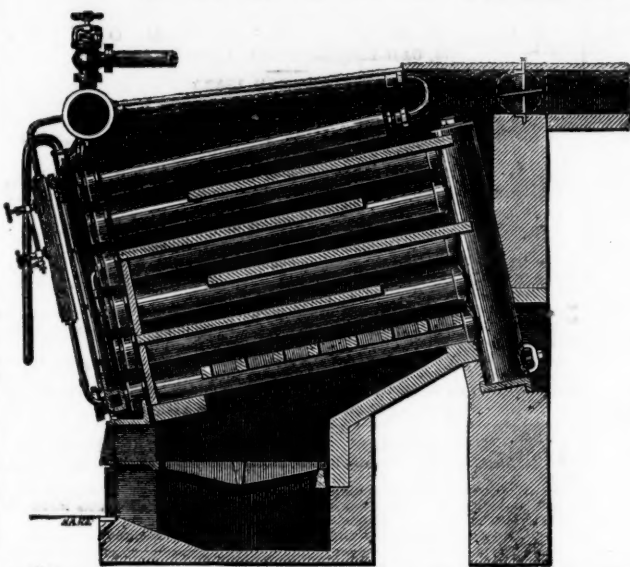
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THE BARROW SHIPBUILDING COMPANY beg to call
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extending over some years, and having worked these
Boilers in their own workshops under the most varying
conditions, and subject to the most crucial tests, they
have every confidence in recommending them to the
public.

The Boilers are constructed of the very best material,
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Each Boiler, in addition, is sold with the certificate of
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For particulars, apply to the—

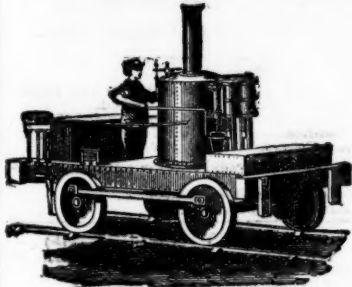
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number are successfully working at QUARRIES, GASWORKS, RAILWAY SIDINGS, &c.



STEAM CRANES, portable and fixed, for Wharf or Rail.

STEAM and HAND DERRICK and OVERHEAD TRAVELLING CRANES.

HOISTING AND PUMPING ENGINES.

Improved Steam Excavator or "Navy."

STEAM ROAD ROLLERS,

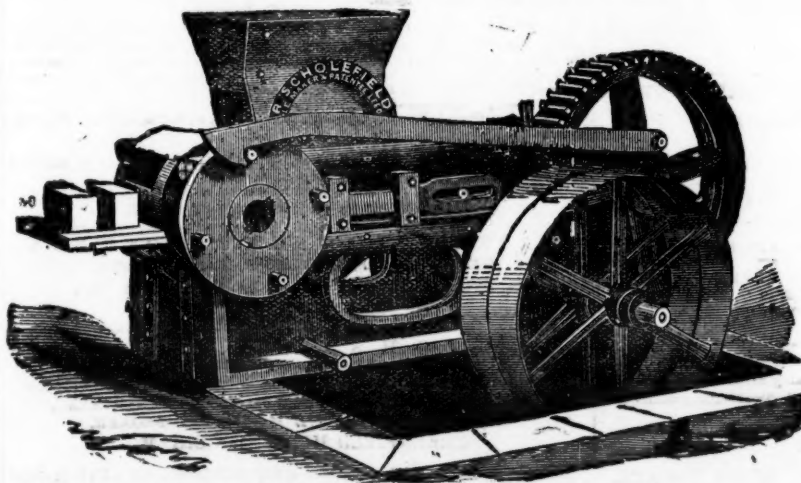
And other of our CHAPLIN'S VERTICAL ENGINES and BOILERS, always in stock
or in progress.

PATENTERS AND SOLE MANUFACTURERS,

ALEX. CHAPLIN & CO., CRANSTON HILL ENGINE WORKS, GLASGOW.
London House: McKendrick, Ball, & Co., 63, Queen Victoria-st., E.C.

R. SCHOLEFIELD'S
LATEST PATENT BRICK-MAKING MACHINE.

PATENTED 1873.



R. S. begs to call the attention of
all Colliery Owners in particular to
his PATENT SEMI-DRY BRICK
MACHINE, and the economical meth-
od of making bricks by his patent
machinery from the refuse that is
taken from the pits during the pro-
cess of coal-getting, which instead
of storing at the pit's mouth (and
making acres of valuable land use-
less) is at once made into bricks
at a very small cost, by R. S.'s Pa-
tent Brick-making Machinery. If
the material is got from the pit hill,
the following is about the cost of

production, and the hands required to make 10,000 pressed bricks per day:—

2 men digging, each 4s. per day	8 0
1 man grinding, 4s. 6d. per day	0 4 6
1 boy taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day	0 2 6
1 boy greasing, 1s. 6d. per day	0 1 6
1 engine-man, 6s. per day	0 5 0
1 man wheeling bricks from machine to kiln, 4s. per day	0 4 0

Total cost of making 10,000 pressed bricks £1 5 0, or 2s. 6d. per 1000.

(SETTING AND BURNING SAME PRICE AS HAND-MADE BRICKS.)

N.B.—Where the material can be used as it comes from the pit, the cost will be reduced in digging.
As the above Machinery is particularly adapted for the using up of shale, bind, &c., it will be to the advantage of all Colliery Owners to adopt the use of the
said Brick making Machinery.

THE MACHINES CAN BE SEEN IN OPERATION AT THE WORKS OF THE SOLE MAKER AND PATENTEE DAILY.
SCHOLEFIELD'S ENGINEERING & PATENT BRICK MACHINE WORKS.

KIRKSTAL ROAD LEEDS.

EIGHT PER CENT. DEBENTURES.

Central Pacific Coal and Coke Company, Limited.

EIGHT PER CENT. RAILWAY DEBENTURES of £100 each for £90, redeemable at par by annual drawings. Interest payable half-yearly in London.

AN ENGLISH COMPANY has PURCHASED the WELL-KNOWN SAN PETE COAL-FIELD and the CHARTER and PROPERTY of the SAN PETE VALLEY RAILWAY, situated in UTAH, U.S.A.

Estimated value of the property, including the railway about to be completed, £512,030.

This vast deposit of bituminous coal has been inspected and most favourably reported upon by Mr. Isaac Shone, C. and M.E., F.G.S., Mayor of Wrexham, and Mineral Surveyor to the Duke of Westminster.

The titles to the properties have been examined, and approval on behalf of the company by eminent English and American Counsel, and the Company's London Solicitor has also visited the property.

The control of the management is in English hands.

Estimated annual earnings of the Company £140,490, or more than seven times the amount required for the interest and sinking fund.

The fine climate, flourishing industry, large mineral and agricultural resources, and rapidly increasing population of Western America render it an excellent field for safe and lucrative investment, provided that all operations are strictly controlled by English Companies formed on a sound basis.

EXTRACT FROM THE GOVERNOR'S MESSAGE TO THE LEGISLATIVE ASSEMBLY OF UTAH, 1878:

"Already attention is being directed to the vast coal fields of the San Pete County, where are to be found immense veins of bituminous coal of superior quality for cooking and ordinary use."

"The day appears not far distant when these mines will furnish fuel for the smelting of our ores, at a cost probably of one-fourth the money now paid for Pennsylvania coke."

EIGHT PER CENT. RAILWAY DEBENTURES of £100 each at £90.

ISSUE OF £150,000 Eight Per Cent. First Mortgage Railway Debentures, secured on the SAN PETE VALLEY RAILROAD, and in addition on all the Freehold Lands and Property of the CENTRAL PACIFIC COAL AND COKE COMPANY (Limited), in Bonds of £100; issue price, £90 each; redeemable at £100 by annual drawings, commencing in 1882. Interest payable half-yearly in London, by Coupons attached to the Debentures, holders having the right to exchange their Debentures into fully paid-up shares at par.

DIRECTORS.

The Honourable ASHLEY G. PONSONBY, 9, Prince's Gardens, S.W.—CHAIRMAN.

Sir HENRY W. TYLER, Wyvenhoe Hall, near Colchester.

Colonel WILLIAM KEMMIS BETTY, 21, Hyde Park Gate South, S.W.

WILLIAM PETER BOND, Esq., 6, Norfolk-terrace, Waltham Green, Fulham, S.W.

CHARLES WILLIAM HECKETHORN, Esq., 67, South Lambeth-road, S.W.

TRUSTEES FOR THE DEBENTURE HOLDERS.

CECIL A. T. OTWAY, Esq., J.P., The Grove, Prestigne, Radnorshire.

The Honourable ASHLEY G. PONSONBY, 9, Prince's Gardens, S.W.

Colonel CHARLES PASLEY, R.E., Ely House, Richmond Hill.

SOLICITORS—Messrs. CARR, FULTON, and CARR, 7, Vigo-street, Regent-street, W.

ENGINEER—LESLIE C. HILL, Assoc. Inst. C.E., F.C.S., Bartholomew House, E.C.

BANKERS—Messrs. RANSOM, BOUVERIE, and CO., 1, Pall Mall East, S.W.; LONDON BANK OF UTAH (Limited), 26, Austinfriars, E.C.

SECRETARY—S. J. SMITHERS, Esq.

OFFICES,—MOORGATE STREET CHAMBERS, LONDON, E.C.

THE DIRECTORS of the CENTRAL PACIFIC COAL and COKE COMPANY (Limited) are prepared to receive APPLICATIONS for the above DEBENTURES, at the price of £90 for each £100 Bond, payable as follows:—viz., £5 on application, £10 on allotment, £25 on the 2nd day of September, £25 on the 3rd day of November, 1879, and £25 on the 7th day of January, 1880. Payment in full may be made on allotment, from which date interest will accrue.

ABRIDGED PROSPECTUS.

These Debenture Bonds will be a first mortgage upon the San Pete Valley Railway, and upon the whole of the company's freehold property, consisting of 6000 acres of coal lands, together with the buildings and plant thereon, valued at £512,030.

The San Pete Valley Railway, from the mines to the junction of the Utah Southern Railroad, will be 30 miles in length, and will connect the coal mines and coke works with the entire railway system of the Western States. This will enable the coal and coke to be supplied to the numerous smelting and other works connected with the vast mining operations of the country.

These works consume large quantities of fuel, which is at present obtained mainly from Pennsylvania, a distance of 2200 miles, at a freight cost of \$28 per ton, or from England at about the same rate; whereas the most important of these works are within 150 miles of the company's property.

The estimated net earnings of the company are as follows:—

From the San Pete Valley Railway £ 24,850

From the sale of coal and coke 115,640

£140,490

Whereas the interest and sinking fund upon these Debentures will together only require £19,500 per annum.

The capital now to be raised will be applied for the purposes of the railway, and for completing and equipping the same, no promotion money being paid.

Each Debenture will carry ten votes at the general meetings of the company, and £100,000 of the shares have been vested by the vendors in the trustees of the Debenture-holders until the completion of the contract, thus giving the Debenture-holders and their Trustees a majority of the votes.

Prospectuses, forms of application, maps, plans, and reports, and all further information may be obtained from the Secretary at the Office of the Company; and from Messrs. WALTER and CO., No. 17, Charles-street, St. James's, S.W.

Applications for Debentures may be made in writing, in the following words:—
To the Directors of the Central Pacific Coal and Coke Company (Limited),
Moorgate-street Chambers, London, E.C.

GENTLEMEN,—I request that you will allot to me Debentures of the above issue, in respect of which I undertake to pay £90 for every £100 of Debentures; and I hereby agree to accept the same, or any less amount that may be allotted to me, subject to the conditions contained in the prospectus dated 9th July, 1879. I enclose cheque for £ , being £25 on each Debenture applied for.

Name
Address
Profession or description
Signature
Date

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.*—No. CXXV.

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,

Mining Engineer, Wakefield.

(Formerly Student at the Royal Bergakademie, Clausthal.)

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SECTION IV.

OVERSTOPPING.

A variety of overstoping, arising from local circumstances, occurs in the galena lodes in limestone in the North of England, the lodes being found to be productive only between the edges of certain more or less horizontal beds, which gives rise to horizontal extensions of rich ground of definite and tolerably uniform height. In working these lodes a level is driven along the bottom of the run of ore, and at intervals rises are put up, and overstoping commenced on both sides of the rise. Each rise is let on bing-tail to a gang of men, half the men in the stopes up two adjoining rises working towards each other. The extent of the stopes is limited by the thickness of the horizontal beds against which the run of ore lies.

A somewhat similar method is followed at the galena and blende mine, near Bensberg. Rises are put up from the level every 13 or 14 yards; a height of 5 or 6 ft. of the lode is left intact to form the roof, and the rises put up the height of a stope, the lode being worked out from No. 1 rise towards No. 2 rise, and on both sides of No. 2 rise towards No. 1 and No. 3 rises, likewise on both sides of No. 3 rise towards No. 2 and No. 4 rises. The stoping is, of course, not necessarily commenced at the same time in all the rises.

When the amount of attle is insufficient to fill up the excavated ground it becomes necessary to place scaffolding at various heights between the levels, on which the attle is piled up, but does not reach to the next scaffold above, so that levels are left open through the attle packing every few stopes. As will be at once evident this arrangement is expensive as regards wood, and in such a case overstoping loses its chief advantage over understoping, so that under these circumstances understoping will mostly be preferred.

The mineral is transported from the stopes to the level below, directly from the first stope, and indirectly from the last stope through the winze, and from the rest of the stopes through the passes. The passes are circular or rectangular shafts, built in the attle packing every two or three stopes, or every 20 yards. Where the lode is comparatively narrow the pass will be formed by inserting two vertical rows of stempels about 3 ft. apart, the stempels being set from hanging to lying wall, so that the pass is thus rectangular, two sides being formed by the stempels and attle packing, and two sides by the walls of the lode. In this case the pass will be formed on the full dip (or rise) of the lode, and has the same inclination as the lode. Where, on the contrary, the lode is wide, so that the pass is surrounded on all sides by attle packing, it is more usual to build the pass in masonry, and perfectly vertical. The pass is then usually made circular, the walls being built with the larger pieces of attle. Most passes are closed at the bottom with a wooden frame, in which a shutter, or door, can slide up and down, opening the bottom of the pass, and allowing the mineral to fall out into a wagon beneath; or shutting the door, and keeping the pass like a closed hopper. Although in some cases the pass is not closed at the bottom, and the ore is thrown down through it to the floor of the level below, still it is generally used as a closed hopper, which can be opened and shut at will, the mineral being kept stored up within it pretty close to the top, since the mineral having a less distance to fall is less likely to be broken into smaller pieces. Besides the transport in the level below is not hindered when closed hoppers are used. To prevent the mineral being jam-

med tight against the sides of the pass it is usual to make the pass larger in section at the bottom than at the top. For a pass 30 yds. in height the diameter at the bottom is often about 4 ft. 6 in., which is contracted to 3 ft. at the top. When the inclination of the pass is less than 50° the ore has but little tendency to roll out of the passes; this gives the limit of the inclination of the pass. The wooden mouth is generally placed at one side of the pass, so as to be at one side of the level in such a position that a wagon can readily be pushed beneath, and filled, by simply opening the shutter, the ore rolling into the wagon. The rises are generally timbered, and the top fitted with hand windlass for raising the mineral and lowering the tools. A wooden ladder clamped against the timbering serves as a means of ascending directly to the highest stope from the level below. When the stoping is completed, and all the mineral worked out, the timber is drawn out of the passes, which are filled up to keep the attle packing solid.

At the commencement of this division it was stated that the nature of the mineral was of but little importance in deciding on the mode of working, and that it was rather dependant on the dip, thickness, &c., of the deposit. In many of the coal districts of France, Belgium, and Prussia the carboniferous strata have been tilted up, and folded in such a manner that whilst the general dip of the seams may vary from 15° to 40°, forming the so called "plate," "plateaux," local portions of the seams may be inclined at from 60° to even 90°. Whilst the former are worked out on a modification of the longwall system, the latter are worked out by overstoping, which corresponds in general arrangements with what we have above stated. The thickness of most of the seams thus worked is about 20 in., only a few reaching a thickness of 4 ft. to 4 ft. 6 in. The seam is divided horizontally by levels every 30 to 40 yards. In the case of the thinner seams the level is driven wider than the seam, being formed partly in the rock, the stones thus obtained being used as attle packing, since a coal seam furnishes proportionately less packing material than a lode of the same thickness. The levels are timbered with door-set timbering, composed of two legs and cap piece, the latter extending a few inches beyond the top of each leg. The legs are at the foot let into the coal and rock, and are prevented from being pushed in by the means of a short strut immediately below the cap piece. In many cases the levels are only driven a short distance in advance of the stoping. Immediately to the right and left of the cross-cuts from the shaft a slice of coal is taken out downwards from the upper to the lower level, the stopes being set off as the coal is taken out downwards. The presence of fire-damp prevents a rise being put up from the lower level, as is generally the case in overstoping. The stopes are not driven forward (only commenced) till the upper and lower levels are connected. A solid pillar of coal is left in between the levels, immediately above and below the cross-cuts, which are all driven from the shaft to intersect the seam in one vertical plane. The space thus excavated is carefully and tightly packed with dirt, planking or covering wood being first placed over the cap pieces to form the lower roof of the level. The stopes are generally formed 6 ft. high and 6 ft. long, which is found most convenient for one workman; when the lowest stope is driven simultaneously, and in one face with the end of the level, two workmen will be placed together, the upper part forming the actual face of the stope will have to be reached by some slight scaffolding. Since the height of the recess corner of each stope will be about 8 ft. to 10 ft. above the top of the attle packing, the hewer has to place planking against the timbering at the face of the stope to stand on. The roof of each stope and the sides (corresponding to the roof and floor) of the coal seam are timbered by means of bars placed against the sides and cross struts between the bars. The timber is almost invariably left in, being buried in the packing. The mode of getting the coal is as follows:—The hewer first holes (in some suitable dirt seam, or the coal itself) in the roof of the stope and at the back half to a height of 2 ft. A prop is placed against the projecting corner of the stope, the prop being footed against the attle, or some part of the timbering. The hewer then holes in the same dirt parting from the front or face of the stope, the cuttings falling down through the

portion already holed from the roof below. The hewer holes at first only towards the upper part of the face, so that the ground remains intact at and close to the projecting corner. After the coal has been loosened by holing horizontally across at the roof the portion still untouched at the projecting corner is holed or cut away, and the coal can now be readily brought down by means of the pick, or with hammer and wedges, after removing the prop. The stopes being as high as long the general direction of the face of the coal and of the surface of the attle packing is 45°; the surface of the packing forms a straight line at this inclination, instead of being built up to form a series of steps. The packing is usually done in the afternoon or night shift, being handed down from the level above by a chain of boys. Part of the packing consists of small coal and material which has broken off the sides.

The coal is transported from the stopes to the level below in three ways.—1. When the inclination of the surface of the attle packing is considerable, 40° and more, the coal is allowed simply to roll down into the level below, over the surface of the packing. This method is attended with the great disadvantages that the coal is much broken before it reaches the level, and is liable to be mixed with more or less dirt from the packing, and no proper separation of the coal according to size or sort can take place in the mine.—2. When there is a deficiency of packing inclined roads can be made in the packing, and connected as is found best with every second stope by means of a short vertical pass. These inclined roads rise at 10° to 15°, and are fitted up for tram or wagon conveyance. The short passes are filled up when, owing to the advance of the surface of the packing, the mouth of the pass runs into the level above. Similarly, when the upper end of one of the inclined roads runs into the level above the road is closed at the bottom, and filled up through its whole length to the level above. When, as above mentioned, there is a deficiency of packing these roads are left open.—3. The most general way of transporting the coal to the level below is the same as that generally used in overstoping—by making passes through the packing. As the seams are comparatively thin, these passes are readily formed with two vertical rows of cross bars placed inside and close against two adjoining vertical sets of timbering, which they serve to strengthen. These passes are used as closed hoppers, as above described. In many mines one pass is provided for every two stopes—i.e., every 12 to 12 ft.; in other cases the distance may amount to every 30 to 30 ft.

The ventilating current enters in at the lower level, passes on to the face of the level, and ascends backwards through the stopes to the level above.

It sometimes occurs that, owing to a change in the proportion of the loose attle left for packing to the space originally occupied by the whole mass of ore and matrix, the attle is insufficient to fill the space left, in which case the stopes will have to be worked from scaffolding as the working away of the stopes advances from the level below; or, in order to give the men a flooring of attle packing, that every second, third, or fourth stope, as the case may be, will have to be left unpacked, and a special row of stempels, with covering boards, will have to be placed at some height above the top of the attle packing, on which the freshly won attle from the next higher stopes is packed. This will leave levels or roadways open through the attle packing, the floor of the levels being formed by the attle and the roof by the row of stempels and covering boards. This latter method is called by the Germans "Firsten kastenbau," and, as is evident, is proportionately more expensive in cost of wood, and loses thus its chief advantage when compared with underhand stoping.

EMIGRATION OF ENGLISH MINERS TO NEW ZEALAND.—A deal of interest has lately been taken by the mining classes in the visit of a New Zealand emigration agent to several of the chief mining districts in England. The gentleman in question was commissioned by the New Zealand Government to select fifty of the best colliers and their families from Yorkshire, Durham, Lancashire, and the Forest of Dean, for sending out to Westport, New Zealand, on Aug. 21 next. The whole of the above districts have been visited, and

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergstrath Dr. von GRODDER, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

covered in Cardiganshire will be opened out. It is considered to be an enterprise of unusual promise, and that as an investment it will yield very large dividends even at the present of lead.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, July 29: Produce nine days, second division of July, 9000 tons, 3487½; yield, 6.6 oia. per ton.—Cuiabá: 150 tons stamped in 18 days; yield 2 oia. per ton.

DON PEDRO.—Capt. Vivian, July 4: Mine and Drainage: The No. 2 incline shaft we have not succeeded in getting through the choke, but good progress is being made. This of course has caused some delay in getting down to work the stopes in the No. 3 old shaft below the 40. It was my intention to have made the stopes in the No. 3 old shaft before stopping the 60 ft. wheel to complete the repairs, so a few good out of our financial position, but as we are prevented from doing so for reasons above explained, advantage is taken of the delay to complete as far as possible said repairs. The latter work can be carried on at the same time as that in the mine without interference to each other. I scarcely need state that the repairs to the wheel have been a very tedious and costly affair, but considering the state in which the wheel was in a short time since there is reason to congratulate ourselves on the success so far obtained. Before the repairs were commenced the wheel was of no value as a motive power, but now it may be considered as a strong and powerful piece of machinery capable of doing a large amount of work. The produce for June amounts to 473 oia., which is a slight increase on the previous month, but not to the extent anticipated, as I slightly expected we should have been able to have had a few days work from the No. 3 old shaft below the 40.

Mine Captain's Report, dated June 30: General Remarks: The ore has been derived principally from Bryant's, and continues to be of low quality. The lode is still bumpy and irregular in size and yield.—Prospective and Running Work: In No. 1 incline shaft several repairs have been made, sets studded, &c., and debris cleared. Vivian's shaft has been taken up with two beams, each supported with two props. Progress has been slow at No. 2 incline shaft, as the foul air here is very strong, and the incline excessively hot, the incline shaft having crushed and filled with debris and old timber. Finding that a bellows could not overpower the bad air, a series of pipes has been put together from No. 1 side level to the present breast of incline, which greatly ameliorated the ventilation, and enabled us to effect a communication to Vivian's shaft for air, which has considerably improved it, and also freshened the incline shaft very much, and will, we hope, enable us to make better progress in the prosecution of the same. The new level is being operated on at intervals, the level being very regular, in consequence of the regularity of the lode. In Alice's level four sets of laths have been renewed, and two sets put in. In Symons' shaft 60 sets have been put in from below Harry's cross cut to the surface, and they will require dividing, &c.—Drainage: The 60 ft. wheel and other machinery: Having succeeded in regaining the plunger-lift, re-making bevel joints in column of same, examined both valves, cleared cistern, pecked pole, and done all other repairs deemed requisite for the proper working of the plunger-lift, &c., and, finding that No. 2 incline will take some time to repair to reach this point, it was deemed advisable to stop the wheel and proceed with further repairs, with the view of saving time, which we hope in a short time will be completed, this having been a long and troublesome job. In the meantime No. 2 incline will be prosecuted most vigorously, as we hope the wheel will resume duty ere the water rises sufficiently in height to impede our progress at this point.—Machinery: All the iron rods received from England have been put in, linings repaired and screwed tight, &c. The regos are kept clean, and in good order.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, \$60,000, from 1050 tons of ore. Dore bars from refinery, \$43,000.—R. Rickard, July 9: Since my last work in the mine and smelting works has been carried on with usual regularity. The 200 cross-cut has been drifted 21 ft. without any change to mention in the ground. The 400 quartzite drift has been extended 12 ft.; the ground is somewhat harder than it has been. The 400 south cross-cut has been drifted 20 ft.; the ground is very favourable for drifting. The 500 north cross-cut has been extended 11 ft., without any change in the ground. The 600 west drift has been extended 11 ft.; the ground in present end is not looking so favourable for ore as it was. The 900 cross-cut south has been extended 15 ft.; the present end is in hard limestone. The No. 12 chamber is producing the usual quantity of ore, and is still looking very well. The No. 11 chamber is somewhat improved, the ore is all the ore at present being extracted is from these two chambers. The furnaces are doing good work; they are smelting an average of over 70 tons of ore daily, and are in very good working order.

NOUVEAU MONDE (Gold).—D. M. Battistini (June 27) writes that Mr. Albert Faergert announces that, on July 18, he had discovered a new and rich lode, from which he had extracted from 25 to 30 tons of quartz, yielding from 3 to 4 oia. of gold per ton. A quartz which produces 3 to 4 oia. per ton near the surface will double yield in lower depth. I wait with anxiety the English engineers, and hope to see them by the next mail. You must know that a quartz which yields 4 oia. of gold per ton is considered very rich; quartz yielding only 2 oia. give large profits, for we can work 100 tons per day.

A. Lelion (member of the local committee of supervision) writes—"I have now the pleasure to inform you that a new lode has been discovered in the concession of El Dorado, the property of your company. A letter addressed to our agent, Mr. D. M. Battistini, by Mr. Albert Faergert, who conducts the works, states—"I have the honour to inform you that in the great gallery, near to a chamber, I have discovered a lode very rich and large. Mr. Antonio Zamiera, the well known mineralogist, has examined this lode minutely, and assured me that this is a true rich lode. I have extracted therefrom 25 to 30 tons of quartz, so rich that the gold is clearly visible therein. All the neighbouring quartz, even outside the lode, has all the appearance of being very rich." I am happy in having such good news to communicate to you, and sincerely congratulate you thereon.

BLUE TENT.—D. T. Hughes, July 5: We washed successfully in both claims in the past week, and set off our blast at the South Yuba this afternoon, charged with 450 kegs of powder, with the most satisfactory results. We shall commence piling on it to-night. The river water will likely give out some time during the coming week. The Fall Creek Lakes Water Company will then keep up the stream.

July 29: The directors have this day received the following from their general manager:—"Partial clean-up, \$7000."

BIRD-EYE CREEK.—G. S. Powers, July 12: I sent you cable on the 8th inst., "Cleaned up \$3500; profit, \$4000; remittance, \$2500." I have to-day mailed accounts for June, and trust they will reach you in due time. We exploded a blast on the 8th inst. of 330 cases Judson, equal to 680 kegs. The execution was to all appearance everything desired, and I have no doubt will prove such. There is nothing of further interest. We are running steadily in Meese and Wagon.

BERNHARDT AND AURORE.—Extracts from letters received from Capt. Drake, dated July 6th and 12th: Eberhardt and Aurora Drift: The total length of Eberhardt drift to June 28 was 1042 ft., and the distance run for the week ending July 6 is 39 ft., making the total length of the drift to July 5, 1081 feet. In addition to the tunnel assets shown in the balance sheet we have 9874 feet of Trails laid in track, and 9874 feet of air and water-pipe, which has all been charged up to the Eberhardt and Aurora Tunnel running expenses, and does not appear in the assets of the Eberhardt and Aurora running expense account, although virtually becoming an asset of the company, the same as the tools, machinery, &c.

COLOMBIAN (Hydraulic).—W. S. Welton, June 18: Malpas: Run No. 58 from May 15 to June 16, during which time washing was carried on for 484 hours, produced 878 67 (1507). The ground, notwithstanding the large quantity of waste on the top, would give good returns but for its extreme hardness. We now, however, appear to be getting into softer ground, and consider that our best plan will be to continue working where we are for the present, as the indications of a speedy improvement are very abundant.—Malabar: The work of opening at the new point is being carried out, and I hope to get the water in by July 19.

PLACERVILLE.—Enclosed herewith please find bullion memorandum No. 8158 and clean-up No. 4 upon the property. The gross amount of the bullion is \$2752 05, and is the result of the crushing 240 tons of quartz. The mill we hire is a very poor one, and we have not been able to do more crushing than 240 tons during the whole month; the result per ton is, as you see, very nearly \$12 per ton—not quite so good a result as the previous crushing, but as good nearly as our first crushing. I am in hopes that the present month's crushing will do better. The quartz is looking better in the stopes. The seam of quartz in the 8th level continues to be good, but has not as yet formed into a solid compact vein. I am of the opinion that it will yet connect with the main vein as we drift north; if not it comes from the main vein to the south. Everything is looking very encouraging about the mine, and every prospect that a good and extensive mine will be developed here.

UNITED MEXICAN.—Edward Hay, June 24: Mine of San Cayetano de la Ojeyera: In the cross cut of San Lazaro we have not yet found any of the proximity of the lode, which must have become more horizontal or may have changed its bearing. In order to advance quicker we have begun this week to drive on a smaller breadth until we reach the vein. Should we find it in ore it will be easy to throw down the part left to the old, and thus give the cross-cut its original breadth of 3 metres. The ore is fair where we are stopping into Santa Margarita, and it continues towards the bajo; the lode is more than 2 metres broad. In the alto the ore is rather scarce, but to the bajo there is good ore to the breadth of 75 centimetres. On the run of the lodes and upwards the ore continues, but in depth it seems to give out. In the bottom of the winze of San Pablo no ore is yet visible; the rock is split by numerous relics that interfere with the blasting. We must be about 13 metres to the alto of Los Angeles, and about 10 metres above the level of the gallery and of the Lazaro.

Since last Thursday there has been a falling off in the richness of the ore, but on Saturday night the quality seemed to be in some places a little better than that of the extraction of last week. In the "rebaño" (a working down of high ground) of San Antonio, also to the bajo of the lode, there is ore east, west, and upwards; the same as in the rebaño of San Pablo, this "bardo" is 4 metres broad. In the fronte opened in the winze of San Antonio, towards San Pablo, which will communicate about 8 metres above the present depth of the last-named winze, the ore is narrow. We will soon be able to begin a rebaño in this place should the ore improve and enable us to undertake that work without loss. There is another end in the level of the rebaño of San Antonio in which we have driven 5 metres to the east, on gradually improving ore. The extraction of ore during the four weeks ending June 21 amounted 1258 cargas, and the value of the company's share \$2127.

ISABELLE (Gold and Silver).—Lewis Chalmers, July 7: Enclosed is the usual weekly report. The national Fourth of July holidays and delay in a shipment of powder have reduced our working days during the past week to one-half. We must try and make up for it this week. I send you also monthly report for June. The powder arrived this morning, and we are again fairly under way.—Foreman's Report for Month of June: I herewith submit my report for month of June. Total distance from monument to face of tunnel, 478 ft. Distance run for the month, 148 ft. Our work for the last two weeks has been of such a character that we have made slow progress, drilling well, but close and tough-grained, requiring large quantities of powder, and double the quantity of holes that we have been using previously. I am in hopes of getting a change of material ere long. The month has been a broken one, as you are aware, by the strike among the men. We have a full force of men on at this date, and hope for no more delays on that account. Our machinery is all working well, requiring no repairs since starting. We have water pipes laid, and will have three-fourths of a cord of wood per 24 hours, and think we have it well (or will when finished) protected from winter frosts. The fumes from the powder after blasting cause some delay, and, as you are aware, we are experimenting with the different explosives, and will give them all a fair

trial, and adopt the best and cheapest. I am in hopes to report better progress for July.—Foreman's Report for week ending July 6: I herewith submit my report for week ending the above date. Total distance from monument to face of tunnel, 485 ft. Distance run for the week, 23 ft. The national holidays coming within the week accounts for the short distance run.

TOLIMA.—The Prias Mine returns show a profit of 4682.15s. 5d. The superintendent, whilst explaining that the cause of the relatively low returns raised this month lies in the falling off in the yield of silver in the mineral raised, proceeds to explain that he believes that such diminution will be only temporary, and says "I am glad to report very decided improvement in the engine-shaft, where we have now a well-defined branch of lead and blende containing red silver about 2 in. wide, extending almost the full length of the shaft in the 40 fms. Welton's, in the 30 fms. Welton's, and in a new ventilation winze recently commenced to communicate with the 20 and 30 fms. levels on Welton's lode. In each of the above stations the mineral is of high grade for silver, and what is of equal importance, the ground being laid open for subsequent stoping will be of no small magnitude when explored and developed for a sufficient extent to permit of the operations for extracting being commenced on a larger scale. From this section of ground I anticipate winning ore which will have no slight effect upon our future incomes."

The underground agent reports:—**Alto Gold Mine:** I have to report a clean-up at the stone-breaker on the 18th inst., resulting in 46½ ozs. of gold amalgam. Work ending the above date. Total distance from monument to face of tunnel, 485 ft. Distance run for the week, 23 ft. The national holidays coming within the week accounts for the short distance run.

Amount of bed rock uncovered, 1080 square feet. During the remainder of the month the above ponds, together with the remainder of the Alto shaft, were employed in the completion of the re-grading and re-laying of the sluices, in clearing away debris resulting from the effects of the landslides occasioned by the heavy rains, in repairing the water-courses broken down by the same cause, and in other general work both on the south-west and likewise on the north-east workings.

SENTEIN.—July 25: The manager's report as follows: We are pleased to inform you that the stone-breaker to work yesterday, and it answers very well indeed. It is capable of breaking from 50 to 100 tons of rock per day of 12 hours.

This will save the company a great deal in hand labour, and it will enable our crusher to do more work than when the mineral is spalled, as the breaker bruises the stone throughout. We have commenced to make the new jiggers for the upper dressing floors, the castings for which are done, and they will be finished and put to work as soon as possible. All the machinery is in good order and goes well. We have begun to clear out the old catch pits at the bottom of the lower floors to catch the fine mineral that is in the water coming from these floors, and shall prepare immediately the necessary appliances for dressing the same. At the mine there is nothing of any very special interest to report. We have but a very few hands mining, most of the men being employed in altering and relaying tram-roads to bring out the mineral for the carts, &c. We have broken only about 20 tons of silver-lead and blende ores. The lode in the No. 4 level is still rather hard, and not quite so good for mineral as formerly, but this we expect will change after we have driven 2 or 3 metres further, there being a bar of hard ground at this point in the level above.

PANULICILLO (Copper).—By cablegram from the company's manager at Panulicillo, of date Cuzco, 30th inst., the profit shown by Chill books for six months ending June 30 last, appear to have amounted to about 11,000. Deducting the amount of interest payable here on debentures and London charges, the net profit for the half-year, subject to examination and audit of accounts, will thus be nearly \$6000.

BUENA VENTURA.—July 23: In the 25, east of No. 1 shaft, the ground is hard, but the lode is very compact and regular, yielding 1½ ton per fathom. The 25, west of No. 1 shaft, is in loose disordered ground, and the lode is unproductive at present. In the 25, east of No. 2 shaft, the lode is small, consisting chiefly of carbonate of lime, and yielding good stones of ore. In the 25, north of No. 3 shaft, the granite is easier for driving, and letting out more water; we expect to get a very good result. The lode in the 100, west of the 100, west of our last report the shaftmen have been engaged in dividing and casing the shaft, putting in footway, and fixing a new sinking lift; this work is now completed, and sinking resumed. This shaft will be sunk to the 40 fm. level with all possible speed.

ALAMILLOS.—July 23: In the 20, west of San Felipe shaft, the lode has fallen off a little in value, but still worth ¾ ton per fathom. The lode in the 100, east of Taylor's, is producing stones of ore, but not enough to value. In the 115, west of Taylor's, the lode is changeable; it was rich a few days ago, but soon fell off. The lode in the 120, west of Taylor's, is producing stones of ore, but not enough to value. The lode in the 100, west of Taylor's, maintains its size, and is yielding little ore. In the 85, west of San Adriano, the lode has a better appearance, and it produces a little lead. The 60, east of San Victor, is passing through a fairly productive lode, yielding 1 ton per fathom. In the 70, east of San Victor, there is a strong lode, which is letting out water freely. From the 70, west of San Victor, good progress is made in cross-cutting south. In the 50, east of Judd's cross-cut, the lode is disarranged by a cross-course. In the 70, west of Judd's shaft, an improvement has taken place in this important section of the mine; the lode is valued at ¾ ton per fathom. The lode in the 100, east of Judd's shaft, is small, but very compact and regular, yielding a little ore, but not sufficient to value. The lode in the 135, west of Pell's, is of a promising appearance, and letting out a quantity of water, valued at 1½ ton per fathom. In the 120, west of Pell's, the lode has improved a little during the past fortnight, now worth 1 ton per fathom. The lode in the 90, west of Pell's, is of a promising appearance, and letting out a quantity of water, valued at 1½ ton per fathom. In the 100, east of Pell's, there is a regular and well-defined lode, consisting of carbonate of lime and lead ore, producing 1½ ton per fathom. The 130, east of Pell's, is opening up a piece of good ore ground, valued at 4 tons per fathom. In the 105, east of San Francisco, the lode is not so productive as it was, now worth 1 ton per fathom. The lode in No. 229 winze, below the 100, has improved to 1 ton per fathom. In No. 231 winze, below the 90, the lode is compact and regular, consisting of calcareous spar and lead ore, producing 1 ton per fathom.—Quintanilla Mine: The lode in the 50, east from western boundary, is small, but very compact and regular, yielding a little ore, but not sufficient to value. The lode in the 100, east of Taylor's, is of a promising appearance, and letting out a quantity of water, valued at 1½ ton per fathom. In the 80, east of Taylor's, the lode is very regular, and of a promising appearance. In the 80, east of San Carlos, the lode is small, consisting of carbonate of lime with a few spots of ore. Buzza's winze, below the 80, is going down in a large kindly lode, valued at 1 ton per fathom. The lode in Boundary winze, below the 55, is improving, worth ¾ ton per fathom.

FORTUNA.—July 23: Canada Inco's: The lode in the 120, west of O'Shea's, is split into small branches, valued at ¾ ton per fathom. In the 50, west of Abercrombie's, the lode is small, but very compact and regular, yielding a little ore, but not sufficient to value. The lode in the 60, west of Abercrombie's, is larger, with more lead, worth ¾ ton per fathom. In the 50, east of Abercrombie's, the lode is small and poor. The lode in the 70, west of San Pedro, is well defined, and yielding ¾ ton per fathom. The 80, west of San Pedro, is not looking so well as it has been, producing ¾ ton per fathom. In the 80, east of San Pedro, the ground is hard and the lode small. The 70, east of San Pedro, is opening good stoping ground, valued at 1½ ton per fathom. In the 120, east of O'Shea's, the lode maintains its size and value—1 ton per fathom. The lode in the 100, west of Lowndes's, is large, but without value at present. The 100, east of Lowndes's, has improved within the past few days, worth 1 ton per fathom. In the 90, east of Caros, the lode does not contain enough lead to value. The lode in Canuto winze, below the 70, is not quite so large as it was, now valued at ¾ ton per fathom. Juan's winze, below the 90, is large in a good lode, producing 1½ ton per fathom. In Luis's winze, below the 40, the lode is well defined, worth ¾ ton per fathom.

Los Salidos: The lode in the 160, west of Taylor's, is regular, and letting out much water, yielding ¾ ton per fathom. In the 160, east of Taylor's, there is a very compact lode, worth 1 ton per fathom; the ground is hard. The lode in the 145, east of Taylor's, is 1 ft. wide, opening out good tribute ground, valued at 1 ton per fathom. In the 120, east of Taylor's, the lode is regular, and opening stoping ground, producing 4 tons per fathom. In the 110, east of San Miguel's, the lode has diminished in value during the past few days, now worth ¾ ton per fathom. In the 80, west of Palgrave's, nothing but valueless branches has been met with as yet. The 80, east of Palgrave's, has greatly improved; the ground is favourable for driving, yielding 1½ ton per fathom. In Taylor's engine shaft below the 160 nothing has been done towards sinking during the past fortnight in consequence of fixing plunger-lift, &c.; lode worth 1 ton per fathom. In Eusebio's winze below the 120 the lode is regular and compact, worth 1½ ton per fathom. Robert's winze below the 145 has been suspended for the present owing to an influx of water. The lode is worth 2 tons per fathom.

AUSTRALIAN MINES.

PORT PHILIP AND COLONIAL.—The following advices have been received, dated June 9: Quantity of quartz crushed on both the companies' and tributaries' accounts for the month ending May 21, 3908 tons, pyrites treated 33 tons; total gold obtained, 1408 ozs. 7 dwts.; receipts (including 1577.10s. 1d. obtained from tributaries), 15185.10s. 9d.; payments (including 348.7s. 6d. paid for firework), 2152.15s. 10d.; profit, 1068.11s. 9d.; balance, 1408.11s. 9d. The amount divided between the two companies was 1000l., the Port Phillip Company's proportion of which is 650l. The balance of 1506l. 1s. 8d. was carried forward to next month's account. Remittance 600l.

Telegram received, dated Melbourne, the 25th inst.: Month ending July 16, remittance 700l.

ENGLISH-AUSTRALIAN (Gold).—Capt. Raisbeck, Fryerstown, June 10: There are the same tributaries working as last month; they cleaned up on the 24th ult. 240 tons of stone—about 16 tons of pyrites, and 124 tons of quartz. They are now working 60 ft. north of the south boundary, and 80 ft. above the top level. They have driven 30 ft. west of the lode upon a strong leader showing a little gold; at present it is 7 ft. thick; it is the largest block of stone we have met with. I expect it will improve as they drive further west. If it is payable there is stone in sight for months to come; they have crushed 130 tons of stone. I think there is a little improvement upon last month. We have only two men and one engine-driver working upon wages; they are busily employed in hauling, crushing, and other works connected therewith. The New Era Company are driving east at their 480 ft. level, to intersect their new lode; they expect to cut it next week.

SCOTTISH AUSTRALIAN.—The directors have received advices from the Committee of Inspection at Adelaide, with reports from the Kurilla Mine to June 9. The following are extracts from Capt. Anthony's report:—The Kurilla Lode: At the 65, east of Hall's shaft, the lode has produced some rich ore since my last report, but not enough to pay, although the whole of the lode, 4½ ft. wide, has to be laid aside for being dressed. I expect to reach the main bunch of ore at the end of this month. The lode in the winze sinking below the 45, east of the 55 drive, has yielded during the month from 4 to 5 tons of 20 per cent. ore per fm. It is now 5 fms. deep. Tribute works on this lode 6 men, at an average of 9s. 6d. in 12.—Morphett's Lode: The 43, both east and west of the engine-shaft, continues to lay open tribute ground, the yield being an average of 3 tons of 17 per cent. ore per fathom. The eastern drive is about 18 fms. from the shaft, and the western one 11 fms. At the 30, west level, the lode held good for about 6 fms., and was then displaced by a slide dipping from west to east (an unusual occurrence, as our slide generally dips from east to west). At 48, however, no interruption has occurred, and the ore continues. It was my intention to suspend driving at the 48 west, not expecting that the ore would last. As, however, the ore raised will more than meet the cost of driving, I have re-set it to four men, at

9s. per fathom. Our prospects west of this shaft have greatly improved during the last two months. . . . On this lode 30 men are working on tribute at an average of 8s. 8d. in 12. During the last few weeks no less than 12 men have taken old pitches at 10s. in 12. As except in special cases they receive no advance except on ore actually raised, I encourage them to take those old places while labour is so abundant. I may say that in one case the result is likely to turn to good account. Two men recently went to work in the bottom of the 30 fm. level on the north branch. Some good ore had been previously raised in the roof of the drive, but it was abandoned, there not being ore enough to pay. The new men had not sunk more than 1 foot before meeting with a good lode, on which they are making more than average wages. On the strength of this two other men are driving north in the 30 fm. level, to cut the same lode, they to receive 12 per week per man, to be deducted from any ore they may raise at 10s. in 12. It is to be deeply regretted that, owing to the low price of copper, the engine shaft on this lode is not being deepened, the prospects being remarkably good. The same remarks will apply with equal force to Hall's engine shaft. . . . The manner in which both Hall's and Morphett's lodes are opening out in the yield of ore, although only now in the early stages of development, is sufficient guarantee for their future, even greater productiveness. In the past capital was raised with the object of opening a good mine, but with such uncertainty as always attend such undertakings. Now, however, we are sure that we have a good mine, and on requiring proper care to become a source of wealth should require only a small capital.

Ore Returns: On hand May 1, 355 tons of 14½ per cent.; raised during May 125 tons of 17 per cent.; dispatched for sale in the colony 235 tons (including the 100 tons mentioned in last month's report), averaging 16 per cent.; on hand June 1, 242 tons of 14½ per cent.; 500 tons of smalls of 5 per cent.; and 1280 tons of dredge ore of 5 per cent.

THE WEEK.

SATURDAY, July 26.—The railway market was in a dull, neglected state. As present the "bears" would seem to be the best supporters of the market. Yesterday and the previous day a large business was done, the improvement in the weather making them buy to close. To-day being dull they did nothing, sellers accordingly had to accept reduced prices. Sellers of Districts got 67, against 65 and 68½ on the previous day. Brighton, A, fell to 105½, and Dover, A, to 107½; Rio Tinto 7 per cent., 15½ to 16; Colorado, 1½ to 1½; Fronting, 1½ to 2½; Hughes Locomotive, 9½ to 9½; Yarmouth Aquarium, 2 to 2½. In the foreign market Egyptian Daira bonds were flat, and fell 1½.

MONDAY.—There was no buying of railways worth speaking of, though the day was extremely fine. Brighton, A, closed no better than 105, and Sheffield fell to 74, though this price would appear good value for a stock paying ¾ per cent. The London and South-Western dividend was announced as one of 4½, against 4½; this is not a line in which speculators take any interest. Tharish Sulphur, 2½ to 2½; Richmond, 7½ to 7½; South Frances, 6½ to 6½; Don Pedro, 5½ to 5½; Wheel Creek, 1½ to 2½; Nouvelle Monde, ¾ to 1; Paris Copper, 1½ to 1½. A decided recovery was shown in railways, an advance of over 1½ being registered in more than one instance. Districts rose to 69, and Great Western closed 1½ higher; where, however, a large weak "bull" exists, such as in Great Eastern, Brighton, A, and Dover, A, a weak tendency was shown. The public are now beginning to buy Mexican railway stocks, the First Preference having advanced nearly 50 per cent. since they were first mentioned in this article. That a dividend will be paid here shortly is now a matter of certainty. The ordinary shares closed firm at 2, but the Second Preference at 3½ (of paid) are relatively cheap. In the American market there was some good buying of Philadelphia and Reading General Mortgage bonds, 1874, which rose to 75½, but in the morning were continued at 73½.

WEDNESDAY.—A marked improvement took place in Richmond shares, which after being undecided at 8 became firm at 8½, nearly 1½ above the lowest price touched a few days ago. Business was done in Districts at 70, being the highest price reached for many a year, though as recently as 1877 the stock fell below 39, though selling at 68 at one period. The amount of stock in circulation is very small, and the dealings restricted. Great Eastern recovered to 55½; the meeting held to-day passed off very well.

THURSDAY.—The account just concluded shows some noteworthy changes from the previous one, resulting in substantial "differences" to those who were on the right side. Thus, "bears" of Brighton, A, saw the stock made up at only 105½, as against 109; "bulls" of District had a rise from 63 to 67. Great Eastern has lost ground from 58½ to 55, and Dover, A, from 110 to 107. In the American railway department the principal change has been in Philadelphia and Reading 1874 Bonds, which have advanced from 68½ to 73½. Van shares have fallen from 15½ to 14½. An advance of 2½ took place to-day in Egyptian State Domain Loan.

FRIDAY (Opening).—Railways are inclined to dullness, the weather not looking over encouraging for the Bank Holiday on Monday. Districts are down 10½ being offered at 6½. Brighton A have fallen ¾. Foreign Bonds are firm. Buyers are now giving 88½ for Russian 7½, and 81 for Hungarian Gold. Egyptian Unified, 48½; Preference, 73½ to 73½. Erie Seconds are now 80; Mexican Railway First Preference, 7½ to 7½; National Discount, 9 to 9½. Two o'clock.—Russian maintain their price, but Egyptian, Preference, Unified, and State Domain are all ¾ to ¾ lower. Brighton A have recovered to 106—same as last night. Buyers now bid 70 for District; Philadelphia and Reading General, 70½ to 71½; Central Illinois, 91½ to 92½. Berwick's are rather stronger, at 13½; Rio Tinto, 3½ to 3½; ditto, 7 per cent., 15½ to 15½; Nouvelle Monde, ¾ to 1; Eberhardt, 1½ to 2½; Don Pedro, 5½ to 5½; Richmond, 8½ to 8½.—Four o'clock.—Prices are lower all round. Unified are now only 47½, and Preference 72½. Mexican, 10½ to 10½. Caledonian are only 90½. Districts are offered at 69½. Erie shares are offered at 29½, after being 29½ buyers. Erie Seconds have receded to 79½. Newport Abercrombie Colliery, 4½; Cardiff and Swansea, 3 to 1; New Sharncliffe, 2 to 3; Bilson and Crump, 2 to 2½; Chapel House, 1 to 1½.

F. M. F. CAZIN.

GENERAL MARKETS.—Markets have been quiet all the week, and very little doing. There is no great change in the prices of English railways, except in Metropolitan District stock, which is about 3½ per cent. higher; North Stafford is also better, on the announcement of a dividend at the rate of 1½ per cent. per annum, against 1½ per cent. last year. The traffic returns were very unfavourable. In the foreign markets business has been very limited, but securities generally are firm; Russian are particularly good. Egyptians also are firmer, the State Domain Loan being considerably higher. Columbians are higher, also Mexican. There has been some business done in American and Canadian railways, and at advanced prices. Consols are steady, and show very little change for the week. Mines generally are dull, and very little business doing.—W. H. H. WATSON: 1, St. Michael's-alley, Cornhill, E.C., Aug. 1.

CASELL'S PUBLICATIONS.—The current number—19—of the Great Industries of Great Britain contains the continuation of the article Industrial Art. 4; Hemp, Flax, and Jute, 18; Iron and Steel, 19; Cotton, 18; Industrial Legislation, 9; Wool and Worsted, 17; Shipbuilding, 19; Model Establishments, 6; and are of the usual character. The History of Protestantism, by the Rev. Dr. J. A. Wylie, extends from the Orleans martyrs to the time of the exiled papacy at Avignon, special notice being taken of the papists' application of the religious fees collected in England to the equipment of French soldiers to fight against us, and to the absence from the Bible of anything justifying the popish temporal supremacy. Part 21 of Science for All continues the article What is Work? and there are very readable articles on the Hand, by Mr. F. J. Bell, of the British Museum; How Glaciers Move, by Prof. Barrett; Dust, by Prof. Williamson; a Piece of Rock Salt, by David Bremner; and on the Protective Mimicry of Animals, by Mr. A. R. Wallace. Knight's Practical Dictionary of Mechanics—Part 32—extends from Gold-alloy to Grist-mill. The dictionary is, as usual, admirably printed and amply illustrated.

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1.—He is isolated, no man of culture being on less than 18 miles distance, and the nature of the business requires the presence of two partners.

2.—He needs the £2000 in part to pay therewith a balance on his interest, so as to begin clear of debt, and in part as working capital to stock the sale-store with.

Mr. R. MIDDLETON, of this Journal, will on personal application give more particulars, and is also authorised to select and accept applications. No technical education is required, but a gentleman of commercial ability would be preferred. No time should be lost in making application, as the selection will be telegraphed within a few days.

F. M. F. CAZIN,

Miner and Civil Engineer.

Copperfield, near Bernalillo, New Mexico, U.S.A.

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Large profits were realised by the parties who held adverse possession of the mines, and it is the opinion of the first authorities in the district that the company's property is second to none in Eureka.

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We are, yours truly,
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Major-Gen. J. D'OLY, 6, Charles-street, Berkeley-square, W.
J. M. HYDE, Esq., 77, Cambridge Gardens West, Kensington-park West, W.
L. MALCOLM, Esq., 22, St. Mary Axe, E.C.

BANKERS—CONSOLIDATED BANK, Threadneedle-street, E.C.

SECRETARY—J. F. HAMILTON, Esq.

OFFICES—5, CROSBY SQUARE, E.C.

SOLICITORS—Messrs. MARKBY, STEWART, and Co., Coleman-street, E.C.

Issue of £10,000 Debentures, forming part of £25,000, bearing interest at 10 per cent. per annum, payable half-yearly:—
On the 1st January and 1st July in each year.

The principal of the debentures is repayable in six years or sooner, at the option of the company, with the option at any time during the next three years of converting the same into ordinary shares of the company at par, as the holder may determine. The debentures will be issued in amounts of £50, £100, £500, £1000, as may be desired by the investor.

No debenture will be issued for less than £50.

The debentures constitute a first charge on the entire property of the company, which comprises the following mines, viz.:—The Dunderberg, Atlas, Pleiades, Jinkville, Home Ticket, Valentine, Lord Byron, El Dorado, Bullwhacker, Tecoma, and Montrose, together with smelting works of an extensive character, and machinery, plant, &c., and they will be secured by a mortgage vesting such property in trustees on behalf of the debenture holders.

As the mines are already extensively developed, the money now raised is for the purpose of further extending the company's operations.

Captain Rickard, of the Richmond Mine, made a full inspection of the company's property on the 2nd June last; the particulars of this inspection can be seen at the offices of the company, it is of a highly satisfactory character.

Mr. W. A. Malcolm (one of the directors of the company), together with Mr. Longmaid, are now at the property, and advices have been received from Mr. Longmaid to the following effect, viz.:—

That the furnaces are of full value and very good, and that they are capable of smelting 60 or 70 tons a day.

That the company is in quiet possession of its mines, and that the titles are good and strictly satisfactory.

That he fully endorses Capt. Rickard's report. That operations have been commenced, and that he accepts the position of manager.

Mr. Longmaid is a gentleman of authority and experience in the mining and smelting of the district.

He went out from this country to advise as to the future of the company's operations, and to accept the management if he was thoroughly satisfied of the value and permanence of the property.

His acceptance, therefore, of the appointment of manager demonstrates his opinion.

The mines are contiguous to the Richmond and Eureka, the latter of which has been in active operation for about ten years, and last year divided £360,000 amongst its fortunate shareholders.

The security now offered would appear to be of the most ample and satisfactory character, securing investors from risk, and presenting an additional speculative value in the option which is given of converting the debentures into ordinary shares at par during the next three years. It is not improbable that these shares may rise to a high premium.

To each subscriber is offered a bonus of fully paid shares equal in amount to his debenture subscription, thus for a £100 Debenture Bond there will be given to the subscriber £100 in fully paid shares, and he will moreover be entitled at his option to convert his £100 bond into shares of the value of £100 at any time during the next three years.

All cheques to be paid to the credit of the Ruby and Dunderberg Company (Limited) at the Consolidated Bank, whose receipt will be exchanged for the bonds and shares.

antioneer; W. Diver, 8, Pelham-street, solicitor's clerk. (Registered without Articles.)

THE ISLE OF HERM GRANITE COMPANY (Limited).—Capital 25,000£, in shares of 10£. To purchase or otherwise acquire the Herm granite quarries, and the copper mines, wharves, quays, and lands adjacent thereto, situate in the island of Herm, near Guernsey, and the works, buildings, machinery, plant, and effects connected therewith. To work, win, polish, and sell the granite stones and other ores, mines, and minerals which may be found in quarrying. The subscribers (who take one share each) are—R. G. Brown, 144, Brixton Hill, surgeon; J. Biller, 110, Fenchurch-street, merchant; L. Stevens, Clapham Common, engineer; G. H. E. Brown, Harlesden, accountant; J. P. Hickey, Brixton, secretary; G. W. Gray, 192, Sloane-street, accountant; R. P. Keys, 22, Clifton-street, secretary.

THE MAIDSTONE COFFEE PALACE COMPANY (Limited).—Capital 5000£, in shares of 1£. To establish and open places of refreshment in Maidstone and elsewhere. No intoxicating drinks shall be sold. The subscribers are—C. Whitbread, Maidstone, 50; G. Youngman, Maidstone, 100; W. Taylor, Manchester, 200; J. Clifford, Maidstone, 50; J. Roberts, Maidstone, 100; H. Monkton, Maidstone, 100; R. Fremlin, Maidstone, 50; F. Fremlin, Watlingtonbury, 50; W. T. Fremlin, Maidstone, 50.

THE ANGLO-FRENCH FIRE INSURANCE COMPANY (Limited).—Capital 1,000,000£, in shares of 10£. To carry on the business of a fire insurance company in all its branches. The subscribers are—Charles Eley, 59, Fenchurch-street, 100; T. F. Hamilton, 31, Hertford-street, 250; E. G. Strutt, Chelmsford, 200; Philip Ross, 1, Cromwell-road, 100; Allan Morrison, 53, Coleman-street, 200; J. S. Forbes, West Wickham, 100; Lord Norreys, Wytham, 100; E. Ashley, 61, Cadogan-place, 150; J. Stanforth, 2, Queen's Gate, 1000; Arthur Otway, 19, Cromwell-road, 150; Viscount de C Verneuil, Paris, 650; Comte A. de Circourt, Paris, 650; A. Conte, Paris, 450; A. Gautray, Paris, 650; O. Depayre, Paris, 650; D. E. A. Baron Jorant, Paris, 650; P. A. Pichot, Paris, 450; G. Dervieu, Paris, 350; Société de l'Union Generale, Paris, 4000; A. Chatard, Paris, 4000;

E. Dervieu, Paris, 4000; Comte A. de Puyfontaine, Paris, 4000; J. Rostaud, Paris, 4000; H. R. Koenig, Paris, 4000; John Davies, 6, Old Jewry, 1000; W. C. Quilter, 8A, Tokenhouse-yard, 1000.

THE TA'ERGOUNT COPPER MINE (Limited).—Capital 30,000£, in shares of 10£. To purchase or otherwise acquire from Colonel Bolton, 19, Grosvenor Gardens, R. W. Richards, Putney, and C. H. Thompson, Putney, the Tadergount Mine, native commune of Takitount, Algeria, now held and worked under a *permis* from the French Government, the full concession of which has been duly applied for, and the property, rights, estates, &c., therein, together with the plant, works, buildings, constructions, machinery, stores, materials, &c., belonging to the said mine, and to hold and work the property for all ores and minerals of every description. To acquire any additional lands, mines, minerals, and to work any mines and quarries, smelt, treat, manufacture, and make merchantable such minerals and products, selling and disposing of same. To erect, construct, purchase, work, and use all smelting and other works. The subscribers (who take one share each) are—F. Bolton, 19, Grosvenor Gardens, Colonel; C. H. Thompson, Putney, merchant; E. Woods, 45, Onslow Gardens, civil engineer; R. W. Richards, Putney, mining engineer; P. A. Scratchley, 4, Broad Sanctuary, barrister; E. Penman, Brixton, accountant; H. Richards, Wandsworth, accountant.

COFFEE MUSIC HALLS COMPANY (Limited).—Capital 50,000£, in shares of 1£. To establish and maintain in London and elsewhere music halls at which no alcoholic liquors shall be sold. The subscribers are—E. Hart, 58, Wimpole-street, 10; Elizabeth F. Bell, 123, Gloucester-terrace, 1; F. D. Mocatta, 9, Connaught-place, 100; N. Kerr, 42, Grove-road, 10; Carl Rosa, 10, Warwick-crescent, 10; C. H. Townsend, 23, Finsbury Circus, 5; J. D. McLaren, 106, St. Paul's-road, 10.

THE VALE OF CLWYD BRICK AND POTTERY COMPANY (Limited).—Capital 4000£, in shares of 1£. To purchase and take over the Glas and Graig Wen Brick and Pottery Works, near Ruthin, Denbigh, belonging to J. B. Wilson, with the goodwill thereof, contracts, and effects, and to carry on the business of brick and pottery manufacturers in all its branches. The subscribers are—B. L. Williams, Denbigh, 10; W. Pattinson, Corwen, 20; A. Potts, Pantymor, 10; W. Williams, Rhyl, 10; W. O. Edwards, Haulfre, 10; J. B. Wilson, Ruthin, 100; R. Lloyd, Ruthin, 2.

THE COLOMENDY COMPANY (Limited).—Capital 20,000£, in shares of 5£. The acquisition and working of quarries of white clay, sand, and chalk, china, and other clay, situate at Colomendy and Glan Alyn, in Denbigh and Tyddyn, in Flint; and also other quarries, selling the produce thereof. The subscribers are—James Ashworth, Southport, 10; John Ashworth, Manchester, 10; F. Green, Belfast, 90; C. Elcock, Belfast, 10; T. Emmott, Oldham, 50; B. A. Dobson, Bolton, 40; G. W. Taylor, Mold, 10.

THE BIRMINGHAM AND EDGBASTON PROPRIETARY SCHOOL (Limited).—Capital 20,000£, in shares of 10£. To acquire the Birmingham and Edgbaston Proprietary School, for supplying to boys instruction of the highest order. The subscribers are—J. Marigold, Edgbaston, 5; W. Middlemore, Edgbaston, 1; W. H. Ryland, Edgbaston, 1; C. Warden, Edgbaston, 1; A. Oakes, Birmingham, 1; E. K. Martineau, Edgbaston, 1; M. Lindner, Edgbaston, 1.

TAYLOR, SHERWOOD, AND COMPANY (Limited).—Capital 5000£, in shares of 1£. The purchasing of Taylor, Sherwood, and Co., the proprietorship of James, and taking powder, &c., and to carry on the business in Manchester. The subscribers (who take one share each) are—G. B. Roscom, Manchester; W. Davies, Manchester; T. W. Stanley, Manchester; S. Johnson, Manchester; J. Sherwood, Hulme; T. L. Goodwin, Pendleton; T. Lee, Manchester; W. Stanger, Greenheys; J. Taylor, Greenheys.

FOREIGN MINING AND METALLURGY.

In the Belgian coal trade prices have experienced little change. An offer has been made to supply 1400 tons of general coal for the Gand civil hospitals at 11s. per ton.

As regards the Belgian iron trade, it may be observed that it was M. Hargot, of Liège, who delivered the lowest tender for the construction of the second of two swing bridges to be erected at Laeken over the Willebroeck canal. The amount of M. Hargot's tender was 17,480£, or 3585£ below the amount of the estimate. No fewer than 13 competitors presented themselves for this affair—a proof of the activity and eagerness with which work is now being sought after by Belgian firms, and of the severity with which competition depresses prices. The Brussels works of the Belgian Railway Plant Company have been stopped for some time past. These works would be found useful by the Administration of the Belgian State railways for plant-repairing purposes. M. Hubert, an engineer attached to the Belgian State railways, has published a report on railway apparatus as shown at the Paris Exhibition of 1878. M. Hubert's report has been drawn up with evident care, and states many facts of interest. We learn that M. Kélin, of Grivegnée-Liège, is constructing a fine rolling mill on the Lauth and Baby trio differential system, which is to be shown at the Brussels Exhibition of 1880. This apparatus will be of the same type as one owned by the Espérance Company, which has yielded remarkable results. About 1000 tons of rails are required for the Ciudad Real and Badajoz Railway (Spain). M. Van Scherpenzeel-Tierru, chief engineer of mines in the province of Liège, states that the province comprised last year 16 ironworks properly so called, of which 14 were active in 1878, and the works comprise between them 218 steam-engines, of which 15 were inactive last year. The total production of iron of various kinds effected by the works in 1878 was 104,000 tons, of the estimated value of 714,980£. As compared with 1877 the production increased last year to the extent of 9000 tons, and the value to the extent of 36,392£. Prices declined, however, last year to the average extent of 5s. 7d. per ton. The production of steel effected in the province of Liège last year was 115,000 tons, of the estimated value of 502,000£. Prices, especially of steel rails, experienced a great fall last year.

The Anderlues Colliery Company effected last year a production of 155,434 tons of coal. This production, it should be observed, is for the 12 months ending April 30, 1879. The profits realised for 1878-9 admitted of the distribution of a dividend of 1£ 4s. per share. The Ligny Mines Company realised the small profit of 76£ in the year ending March 31, 1879; this was carried to the redemption fund account. We learn from Russia that the Balakhansk Railway has been opened for traffic. A peculiar feature of this line is that the locomotives running upon it are worked with naphtha.

In the St. Dizier group prices of pig and iron have not experienced any material variation. In the Nord, also, there is little to report with respect to the situation. A fair number of small orders are reported from day to day, and that is all that can be said, nevertheless prices have been well maintained. In the Loire-et-Rhône there is almost complete stagnation, and never has the dead season better justified its name. A few transactions in plates only have been reported, and these have been scarcely of sufficient importance to call for a special mention.

AUSTRALIAN GOLD.—The report of the mining registrars and surveyors estimate the amount of gold obtained in the colony of Victoria in the first quarter of this year, 1879, at 170,550 ozs., being 2123 ozs. more than in the corresponding quarter of last year. The number of miners engaged in the first quarter of 1879 was 36,598, of whom 9479 were Chinese.

PRODUCTION OF SILVER.—The San Francisco Bulletin, which gets reports from the leading mines of the Pacific Coast, gives the product of the precious metals for the first five months of the present year as only \$10,659,000, against \$21,405,800 last year. The falling off has been mainly in silver. The total silver yield for 1879 is estimated at \$30,000,000 against \$37,000,000 last year, and \$48,000,000 the year before.

COAL IN INDIA.—In the last number of the Records of the Geological Survey of India Mr. H. B. Medlicott gives an account of the Mohpani coal field and of recent exploratory borings, and expresses his opinion that the yield of coal is not precarious, as has been supposed, and that "there need not be any alarm on this score for the immediate or even for the distant future."

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE CRYN-Y-MARS LEAD MINING COMPANY (Limited).—Capital 1000£, in shares of 5£. The purchasing or otherwise acquiring of the mines, situate in Denbigh, with the ores, metals, minerals, and products, and the purchasing or otherwise acquiring of any other lands, mines, mineral properties, and the searching for, quarrying, mining, working, digging, raising, getting, washing, dressing, smelting, reducing, manufacturing, or converting lead, lead ore, black jack, and other ores, metals, minerals, &c., and dealing in and disposing of the same. The subscribers are—J. T. Lewis, Cefn Mawr, mining engineer, 10; J. A. Ede, Nant Llanander, mine agent, 20; T. H. Mitchell, Wrexham, land agent, 15; E. Bythell, Plas-yu-Ilan, Mold, farmer, 20; R. Douglas, Coedporth, Wrexham, mine agent, 12; M. Roberts, Rhdydylal, shopkeeper, 6; G. H. Taylor, Bryn Celyn, Mold, accountant, 10.

THE LLANBADARNAFWR LEAD MINE COMPANY (Limited).—Capital 20,000£, in shares of 4£, of which 1125 are issued as fully paid up. The adoption and carrying into effect an agreement made between James George Green and Arthur James Chichester of the one part, and Wm. H. Chichester of the other part. The searching for, mining, working, winning, digging, raising, crushing, washing, reducing, manufacturing, and otherwise rendering merchantable lead, silver-lead, blende, copper, clay, chalk, metals, ores, minerals, and earths. Acquiring by the said agreement the lands, mines, hereditaments, situate at Llanbadarnawr, Cardiganshire, and acquiring any other lands, mines, mineral properties, grants, and concessions in that county, or any other part of Great Britain. The subscribers (who take one share each) are—W. H. Chichester, West Crofton, gentleman; J. T. Morgan, 78, Wells-street, clerk; J. P. F. Pocock, 43, Penton-place, gentleman; W. H. Heaton, 20, Heaton-road, gentleman; A. Sheffield, Peckham, gentleman; T. Hall, South Hackney,

BRITISH MINES.

realised 13137. West Tolgus, 15 to 17; the sale here, 289 tons, brought 1559. West Seton, 15 to 17; 110 tons brought 364. Wheel Crebor left off firmer, after the settlement of a heavy account, at 2 to 2½; the sampling for two months is 163 tons of ore, averaging 6½ per cent. produce. As the winze from the 108 is now down to the 120 driving west from the winze has been commenced in a lode worth for the width carried (5 ft.) 10 tons of ore per fathom. This will communicate in a few fathoms with the 120 end east, driving towards it. East Caradon, 3 to 4; Marke Valley, 3 to 4; Parys Mountain, 10s. to 12s. 6d.; Morfa Du, 16s. to 18s.; New Cook's Kitchen, 2 to 2½; South Caradon, 45 to 50.

LEAD is said to be firmer, but as a rule shares in lead mines are flat, and quotations merely nominal. Van, 14 to 15; no change here. Great Laxey, 15 to 15½; the strike, which has lasted nearly five months, is now at an end. The men have gone to work on the terms of the directors. Roman Gravel, 7½ to 7¾; the sampling here is 200 tons of lead ore. Tankerville, 2 to 2½. South Darren, 1½ to 1¾; the 100 west is worth 1 ton per fathom, and the stopes in this level ½ tons per fathom. The sale of lead ore for the month realised 6137. 2s. 6d. Pateley Bridge, 3 to 4; the 30 east, on Rake vein, is improving. The sump winze is worth 10 tons per fathom.

West Pateley, 2½ to 2¾; the agent writes—The Craven Cross lode in the 56 continues worth 4 to 5 tons per fathom. I have raised and dressed from this point during the last three months 70 tons of lead ore, estimated at present price to give a profit of 400. Aberllyn, 10 to 12; Clementina, 3 to 4. At D'Eresby Consols meeting the accounts showed a cash balance in hand over all liabilities of the sum of 27694. 4s. 6d. The directors' report stated that the chief operations in the mine had been to continue the adit level to get under the Cobblers' lode, which down to the water level yielded large quantities of lead. The directors were in hopes it would have been intersected before the meeting, but the hardness of the ground and the underlie of the lode had rendered the progress slower than anticipated. There are other and important points in the mine, two of which are being proved for the company without any expense to it. The late discovery at No. 5 in D'Eresby Mountain the directors consider has materially added to the value of D'Eresby Consols.

Pandora, 3 to 4; the stopes going under No. 1 winze in the 33, on new lode, is worth 1½ ton per fathom. No. 3 winze, in Goddard's lode, 1½ ton per fathom lead, and ½ ton blende. No. 2 winze is worth 1½ ton of lead and ½ ton blende per fathom. The sale on July 28, delivered at Llanrwst, was 16 tons of lead ore, at 7½. 17s. 6d. per ton, and 20 tons of blende, at 11. 5s. Glenroy, 7s. 6d. to 12s. 6d.; in the south end driving the agent reports the part of the lode carried as 4½ ft. wide, of a more favourable appearance, more quartz coming in, showing lead and blende. Bodidris, 1½ to 1¾; Denbighshire, 1½ to 1¾; East Van, 3 to 4; Gorsedd, 2½ to 3; Great Holway, 4½ to 5; Herodsfoot, 2 to 3; Leadhills, 1½ to 1¾; Minera, 9 to 10; Gwynnynydd, 4 to 4½; West Holway, 1 to 1½; Caron, 2 to 2½; Fronchoch, 1½ to 2; Grogwinion, 2½ to 3; Hartington, 1½ to 2; Mawston, 1½ to 2; Red Rock, 1½ to 2; St. Harmon, 1 to 2; West Wye Valley, 1½ to 2; Wye Valley, 1½ to 1¾.

FOREIGN MINES.—Cape Copper, 27 to 28; Chontales, 3 to 4. Blue Tent, 2 to 2½; the partial clean-up telegraphed is \$7000. Placerilla, 2½ to 2¾; mine looking well—the crushing reported a fortnight ago, average \$12 per ton. Frontino and Bolivia, 2 to 2½; the advices show a profit of 5314. 0s. 4d. for the month of May—the gold produced 29124. Colorado, 1½ to 1¾; Canada Gold, 2 to 2½; Ruby, 1½ to 2½; New Quebrada, 1½ to 2½; Port Phillip, 8s. to 10s.; Don Pedro, 10s. to 15s.; Richmond, 8½ to 8¾; St. John del Rey, 250 to 260.

The Market for Mine Shares on the Stock Exchange has remained much in the same position as last reported; there has been comparatively little doing, but there is no disposition on the part of holders to accept lower quotations, although on the other hand it is extremely difficult to find buyers willing to give even the smallest advance on current prices.

The Panama International Canal Company is receiving a considerable amount of attention, both in France and this country. The opinion is very freely expressed that if a little more time and money be expended upon surveys before even the exact route be determined upon it will be largely to the interest, peculiarly, of the shareholders. Not only may a canal without locks be constructed across the isthmus, but even a tunnel may be avoided, and thus success will be assured, as the canal will have all the advantages and none of the drawbacks of the canal at Suez.

The French project for connecting Algeria with the River Niger by railway has now taken a definite form, and a special commission has been appointed by the French Government to make the preliminary surveys. The principle, invariably followed in France and territories belonging to it of granting concessions for such lines only as are necessary for accommodating the country to be dealt with, and of avoiding such objectionable arrangements as the quadruple lines between London and Manchester and the duplicate lines between London and Dover has enabled French railway shareholders to realise far better profits than we are accustomed to in England. It is understood that the enterprise will be commenced at once.

Canada Gold, 2 to 2½; advices have been received from the mines that one of the shafts is already down, and driving is commenced, with results of a promising character, already producing gold.

Nouveau Monde, 3 to 4; the reports from Venezuela are of a very encouraging character. Mr. A. Licioni, the president of the Callao Company, and one of the members of the Committee of Supervision of the Nouveau Monde Company, writes that a new lode has been discovered in the concession of the El Dorado, the property of the latter company. Mr. Albert Faergert, the mining manager, writes with reference thereto that "in the great gallery near the chamber I have discovered a lode very rich and large. Mr. Antonio Zamora, the well-known mineralogist, has examined this lode minutely, and assured me that this is a truly rich lode. I have extracted therefrom 25 to 30 tons of quartz, so rich that the gold is clearly visible therein; all the neighbouring quartz, even outside the lode, has all the appearance of being very rich." Mr. Battistini, the agent in Venezuela, writes (June 27) that the quartz yields from 3 to 4 ozs. of gold per ton, and adds that a quartz so rich at surface will, doubtless, yield double in lower depth. He waits with anxiety the English engineers, and hopes to see them by next mail. They can work 100 tons of the ore per day.

St. John del Rey, 255 to 265; the latest telegram from the mines at Morro Velho, dated Rio de Janeiro, July 29, states that the produce for the second division (nine days) of July was 90000 tons, of the value of 34877, the ley of the ore being 5½ ozs. per ton. At Cuinba 150 tons were stamped in 16 days, and yielded 2 ozs. per ton.

Richmond, 8½ to 8¾; the directors declared a dividend of 7s. 6d. per share, free of income tax, on Thursday; it is payable at the Union Bank of London on Aug. 8. The directors, in issuing the notice, remark that the shareholders will be glad to hear that the new furnaces and the refinery have been working with very satisfactory results, and with increased economy from the time they were started in December last. The mine is yielding weekly the usual quantity of ore without showing any signs of diminution. The directors regret to state that although silver has slightly increased in value the price of lead until very recently has continued unusually low; they are happy, however, to notify that in the last few weeks a considerable improvement has taken place in America, and that there is a fair prospect of this advance being maintained. The usual telegram from the mines at Eureka Nevada states that the week's run was \$90,000, from 1050 tons of ore. During the week the refinery has produced 206 bars to the value of \$45,000. The manager (July 9) writes that the work in the mine and smelting works have been carried on with usual regularity. The No. 13 chamber is producing the usual quantity of ore, and is still looking very well. The No. 11 chamber is somewhat improved in the upper part; all the ore at present being extracted is from these two chambers. The furnaces are doing good work; they are smelting an average of over 70 tons of ore daily, and are in very good working order.

Ruby, 1½ to 2½; a correspondent writes that these shares have been in considerable demand during the week, and that there seems a strong probability that they will take an important position. In another column is a reference to remarks by Capt. Rickard, of the Richmond, with regard to this mine.

Hydraulic or Gold Washing companies' shares have remained without material alteration, and very little business is doing. Placerilla, 2½ to 2¾; the mine is looking well, and opening out very satisfactorily. The 240 tons of ore crushed on mine realised \$12 per ton, not \$10, as advised by cable. This is exceedingly good, considering it was not first-class ore. Blue Tent, 1½ to 2½; a telegram to hand during the week announces a partial clean up, with a result of \$7000.

The Bodie district, Mono county, California, is at present attracting some attention from the encouraging way in which the Consolidated Pacific Mine continues to yield. With the single exception of the Bulwer, embracing three Pacifics and the Sharon, with their extensions south, is the oldest location in Bodie, and is about 1400 ft. by 400 ft. in extent. In the early days of mining in the district about \$20,000 were extracted by means of an arrastra from ore taken at and near

the surface, and the ledges continue to improve in depth. The main working shaft is in the bench which became so justly celebrated through the wonderful discoveries in the Bodie Mine, and is on a line directly east of its richest ore bodies. A depth of 200 ft. it had passed through the surface debris and encountered solid porphyry. The Bodie Mine is more favourable with every foot of additional depth: one good-looking ledge and numerous stringers, all dipping to the east at an angle of about 75°, assaying well in gold, were passed through. Heavy steam hoisting machinery has been ordered for this shaft, and is now on its way to the mine. The foundation for this machinery is constructing, and the heavy timbers for the large building and gallow frame are on the ground, and the machinery will be by this time running. The machinery once in motion, it is intended to sink the shaft 50 ft. or 100 ft. deeper, then cross-cut all the company's ledges, and drift on them north and south. The cross-cut from the bottom of the shaft towards the No. 2 and No. 1 ledges will be watched with peculiar interest by the stockholders and the public generally on account of their proximity at that point to the rich ore bodies of the Bodie and Bulwer Mines, and the probability of their yielding ore equally abundant and rich.

The Lead Market shows decided signs of improvement, and, as a natural consequence, shares in lead mines are more in request, at better prices. West Pateley Mines have been favourably reported upon by Mr. Thomas Dineen, who has long been known in connection with mining both in England and Ireland, the result being that shares are quoted fully ½s. higher than last week. The quotations for some other lead shares are also higher, but the number of purchasers at the advance are not very numerous. It will be gratifying to holders of lead mine shares to learn that the directors of the Richmond Company, in answer to their circular announcing the dividend, state that the price of lead, until very recently, has continued unusually low, but in the last few weeks a considerable improvement has taken place in America, and there is a fair prospect of the advance being maintained. This would, therefore, appear to be a good opportunity for the Missouri Company to take the necessary steps for filling up the share list and setting to work on their property.

Great Laxey, 14½ to 15½; the shareholders will be gratified to learn that the strike at these mines has terminated, the men having resumed work on Tuesday morning upon the printed conditions required by the directors. Gwynnynydd, 4 to 4½; the driving in the flat measures from the 100, in Fron Fawng, towards the Deborah lode, is already producing rich stones of lead, and bids fair to lead to an early discovery. In a similar formation adjoining 40,000 tons of lead were raised.

Mineral Corporation, 11½ to 12½; following the general improvement in lead shares there has been a better demand. They are making satisfactory progress at the mines. The large boiler has been received, and placed at Great D'Eresby No. 5 adit, where they have also erected the compressor and air receiver.

Bog Issa, Llanarmon, 5 to 6; it is reported that they have made another splendid discovery on the heading side of the Great Nant lode, showing solid ribs of lead ore embedded in carbonate of lime, and as soon as the cross-cut is cleared to Gin shaft a large extent of ore ground will be open for tributaries to operate upon. Plas-ddu, Llanarmon, 5 to 6; the leader of lead ore improves as depth is obtained at No. 4 shaft, on Maes y Pwll lode, so that it is thought they cannot be very far from the big run of ore. British Silver Lead, 2½ to 3; they have now a stope 6 ft. high, and 300 fms. long, worth 30s. per fathom, which they think can be let on tribute when it is thought proper.

Grogwinion, 2½ to 3; at the annual meeting it was stated that owing to the low price of lead the sales of ore had been restricted, and only four parcels had been sold in the half year, but an increased amount of development work had been done, and the fullest advantage had been taken of the existing low price of labour and materials. The result had been that many hundred fathoms of new ore ground had been laid open in excess of what had been stoped away, and that the reserves had been greatly increased thereby. The manager stated that the mine looked better than at any previous period; the lodes were much more productive than they had ever been before, and prospects were exceedingly bright. A very moderate increase in the price of lead would enable the company to make good profits and pay dividends. He estimated that close upon 2000 tons of lead had been added to the reserves in the past half year, all of which was immediately available for taking away if the market price warranted them in so doing. Fronchoch, 1½ to 2; everything is progressing well; the whole of the machinery is now worked by water power, whereby a great economy is effected. The lode in the deep levels continues most satisfactory, and large sales of lead will be made directly the re-construction of the shaft and other works has been completed. Caron, 2 to 2½; the deep level is still looking well, and improving as it approaches the run of ore ground seen and worked upon in the level above. Prospects could not well be better. Wye Valley, 1½ to 1¾; the general appearance of this mine is satisfactory and good progress is making at all points. West Wye Valley, 1½ to 2; the bottom level shows lead, and is improving as it approaches the ore ground passed through in the upper workings. Mawston, 1½ to 2; Hartington, 1½ to 2; Crosswood, 1 to 1½; Red Rock, 1½ to 2.

Subjoined are the closing quotations:—Ashton, 3 to 4; Carn Breu, 21 to 23; Devon Great Consols, 1½ to 1¾; Dolcoath, 24 to 26; East Caradon, 3 to 4; East Van, 3 to 4; Gwynnynydd, 4 to 4½; Glenroy, 7½ to 8; Glyn, 3 to 4; Great Laxey, 14½ to 15½; Leadhills, 1½ to 1¾; Pateley Bridge, 3 to 4; Penstruthal, 1s. to 2s.; Roman Gravel, 7 to 7½; Tankerville, 2 to 2½; Tincroft, 8 to 9; Van, 14 to 15; West Ashton, 3 to 4; West Chiverton, 3 to 4; Wheel Crebor, 2 to 2½; Almaden and Tiritio, 6s. to 7s.; Birdseye, 3½ to 4; Blue Tent, 1½ to 2½; Canada Gold, 2 to 2½; Cape Copper, 27 to 28; Chontales, 3 to 4; Colorado, 1½ to 1¾; Don Pedro, 10s. to 15s.; Eberhardt and Aurora, 1½ to 2½; Exchequer, 3 to 4; Flagstaff, 3 to 4; Frontino and Bolivia, 1½ to 2½; Huilaftall, 2 to 2½; Kapanga, 3 to 4; New Quebrada, 1½ to 2½; Pasterena, 8s. to 10s.; Placerilla, 2½ to 2¾; Port Phillip, 8s. to 10s.; Richmond Consolidated, 8½ to 8¾; Ruby, 1½ to 2½; St. John del Rey, 255 to 265; United Mexican, 2 to 2½; Javali, 3 to 4.

At Redruth Tackling, on Thursday, 1143 tons of copper ore were sold, realising 3980. 2s. The particulars of the sale were—Average standard, 80. 3s.; average produce, 7½; average price per ton, 34. 9s. 6d.; quantity of fine copper, 69 tons 1 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
July 3 1890	87	1 0	7½	33 10 0	9s. 9½d.	249 0 0
.. 17 2409	84	18 0	6½	3 1 0	8 11	44 11 6
.. 31 1149	80	3 0	7½	3 9 0	8 11	44 14 0

Compared with the last sale, the decline has been in the standard 17. 10s., and in the price per ton of ore about 2s. 3d.

The Queensland National Bank (Limited) have received a telegram from their head office, Brisbane, announcing that a dividend for the half-year ending June 30 has been declared at the rate of 10 per cent. per annum.

The interest warrants for the half-year ending the 1st inst. of the Six per Cent. B. or preference shares of the Railway Share Trust Company (limited and reduced) were posted last evening.

The Silicate Paint Company (Messrs. Griffiths, Fletcher, and Berdoe) has been dissolved by mutual consent, and the business will henceforth be carried on by Messrs. Fletcher, Orr, and Berdoe.

With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: On the occurrence of Copper Ore in the Wallar District, South Australia; Canadian Mining Notes—XXVIII: What is Dynamite? Book-Drills; Book-boring Machinery; Penstruthal—Steam Pumps; Is it right to pay any Purchase-money for Mines? How some Mining Companies are conducted; Mining in North Carolina; Cornish Mine Drilling; Great Laxey Mining Company (W. Allen); Parys Copper Corporation (T. Bush, F. R. Wilson); Wheel Prussia; Lords' Dues—Foreign Importation; Mine Dues, &c.; Strikers (R. Symons); Obtestness Personified (R. Knapp); Circumstantial Changes. Meetings of Public Companies: The Australian, Cesena, Lovell, D'Eresby Consols, Dolcoath. New Processes in Metallurgy, &c.

WEST PATELEY LEAD—VALUABLE DISCOVERY.—This week's official report states that the Craven Cross vein, in the 56, continues worth for lead ore 4 to 5 tons per fathom. During the last three months there have been raised and dressed from the drive of this point alone 70 tons of lead ore, leaving even with the present low price of lead a clear profit of 400. The miners value the lode in the present end at from 7 to 8 tons per fathom. The company has, in advance of this end, nearly half-a-mile of unexplored ground—that is, upon the course of this famous Craven Cross vein. The cutting of the valuable ore body at the next deepest level, the 67, is a point of considerable importance. Cranston's rock-boring drills are making satisfactory progress in the direction of the 14 parallel veins which intersect the property.

GREAT LAXEY.—It is now some 17 or 18 weeks since the strike commenced. It is gratifying to learn that the men have at last gone to work on the directors' terms. No impartial person can have the slightest sympathy with the men in this strike, and we have constantly urged them in the columns of the *Mining Journal* to go to work, as nothing whatever could be seen but what was fair and just in the course pursued by the Chairman and directors. It is to be hoped the men will now work hard, and so make up in some measure for the long lost time. Some of the men, it is stated, will never again be allowed to enter the mine.

LEVANT.—At a meeting of adventurers on July 22 the accounts showed a debit balance of 2424. 7s. 5d. A call of 5s. per share was made. Capt. Henry Treize and James Thomas say—The several stopes throughout the mine are worth on an average 8s. We are driving 17 ends by 54 men and 14 boys. We have 17 pitches working by 35 men and 5 boys, tributes varying from 7s. 6d. to 17s. in 14. Total men and boys on tutwork and tribute 144 men and 24 boys. We have raised during the last 16 weeks 92 tons of tin and 6000. worth of copper, but we are sorry to say that the drop in the price of tin and copper since the last account has made a difference in our credits to-day of 400.

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Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers being the past year being out of print, we recommend that the Journal should be sent on receipt; it then forms an accumulating useful work of reference.

MINING JOURNAL.—Bound volumes wanted of the Journal for the years 1870, 1871, 1872, and 1876. Any subscriber having them to dispose of will oblige by stating price. Address, "R. C. G., Mining Journal Office, 26, Fleet-street."

Received.—"S. S. B." (Ireland, Missouri).—"D. W."—"T. B."—"R. T." (Hollywood).—"Shareholder" (Great Laxey).—"B. W." should write to the directors, who would, of course, enquire into the matters referred to—"Reader" (Bristol).—"Yes"—"McIntyre" (Richmond).—"Shareholder" (Great Holway).—"Mine Agent" (South Polegth) should, in fairness, attach his name to the letter.

IMPORTANT NOTICE.—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new Postal Convention, which came into operation on July 1, the postage of the Mining Journal to many countries will be reduced to one-fourth. Henceforth the subscription will be 11. 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxembourg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 11. 19s. (50 frs.)

THE MINING JOURNAL.

Railway and Commercial Gazette.

LONDON, AUGUST 2, 1879.

COMPRESSED FUEL.

In connection with the coal trade it appears that the large quantity of slack made by the ordinary operations of our mines has not been utilised to anything like the extent in England that it is in France, considering the vast difference there is in the tonnage raised in the two countries. At many of our collieries small coal is as low as 1s. per ton, which in many instances is little more than is paid for the royalty, so that after paying for getting and raising to the surface there must necessarily be a serious loss. Yet there is no reason why this coal should not be so manipulated as to be a source of profit even in the existing depressed state of trade and of low prices of coal. At the present time we have a few makers of patent fuel, most of which is sent abroad, the exports being at the rate of about 200,000 tons per year, Spain, Italy, and France being the principal consumers; but France itself turns out more brick fuel than we do, and so far the latter appears to be considered better than our own, and is extensively used in the French navy, where it is looked upon as superior to the best steam coal. It may be that up to a recent period we have not been able to produce an article equal to that made in France, or that there has been some prejudice against English compressed fuel. Whatever may be the cause we have it recorded that the trials made not so very long since by order of the Admiralty have had the effect of banishing patent fuel from the British navy, whilst we never hear of its being used in our mercantile marine. Yet for steam vessels it has many advantages over coal, assuming, of course, that the quality of it will bear comparison with the latter, whilst a given tonnage occupies much less room than the same weight of coal. Some important improvements, it may be stated, have recently been made in the manufacture of patent or compressed fuel by briquette machinery, similar, but superior, to that for a considerable time in use in France, by which the material can be cheaply produced; so that the consumption of it should be considerably larger than it has yet been. Indeed, there should be no difficulty in manufacturing an article from slack alike suitable for steamships, manufacturers, and for household purposes, at a price much lower than that now paid for either hard or soft coal. This will be apparent from the almost nominal charge now made for slack, from which large quantities of excellent coke are made.

In France, in connection with the navy, both coal and patent fuel have been tried against each other, and the Minister of Marine has found the latter to be most advantageous in comparison with either Cardiff or Newcastle coal. He states that a better fuel was produced in briquettes, whilst there were the still further advantages of greater facility in loading, stowage of a larger quantity, diminution of loss from dust, and capacity to bear exposures. Consequently, the compressed fuel was generally adopted in the French navy. The best coal for the purpose is that of the Anzin Mines, in the North of France. The Anzin Company, one of the largest working the coal in the northern basin has a compressed fuel factory, with four revolvers and two Middleton presses at St. Vaast, where about 500 tons a day are turned out. The produce is absorbed by the French navy. The Aniche Mines, in the same direction, are also very extensive, and in connection with them are the Lomane Patent Fuel Works. The material worked up is from 70,000 to 80,000 tons of small coal, and 5000 to 6000 tons of English pitch. The works make nearly 250 tons of fuel in 24 hours, and comprise a steam-engine of 50-horse power, three boilers of 45-horse power each, measuring machine for the pitch and coal, two washing machines on Berard's system, a Carr's disintegrator, a centrifugal drying machine for moulding the fuel on a system devised specially for the works by one of the directors and partners, M. BOURRIEZ. The compression is obtained by the motion of a piston on a rectangular mould, which is constantly fed by a mixture of the small coal and pitch in a soft or pasty state, so that there is constantly produced a continuous and a solid band of fuel. Outside the mould the material is separated at each stroke of the piston into rectangular blocks, which are then completed and ready for loading into the wagons. Most of the fuel made is for the French navy. For carrying on the necessary work about 50 workmen are employed. The same company have three other factories at Erquiennes, Harnard, and Marchiennes-au-Pont—so that the annual production of the various establishments is upwards of 300,000 tons a year, nearly the whole of which is consumed inside French territory. This, we believe, is more than is produced by all the makers in England, despite the vast quantity of small coal that is made, and the almost nominal price it is sold at. But there are several other factories in France for the manufacture of compressed fuel besides those enumerated, one of these being in connection with the Bethune Mines, established near to the wharf from which the coal is shipped, and produces from 18,000 to 20,000 tons a year.

It will be seen that the manufacture of compressed fuel has become an important industry in France, not only being largely used by the navy in preference to the best steam coal, but for household and other purposes as well. If the French colliery owners and others are thus able to produce an article that is considered superior to large coal there should certainly be no difficulty in the same being effected in England, where the seams of coal are so much better in every way than those on the other side of the channel. But this does not appear to have been the case if the trials made on board the Minotaur, Resistance, and other English war vessels are to be taken as conclusive, for the reports are the opposite of those given in favour of the compressed fuel by the French officers.

In some instances, however, a mixture of one-third of compressed fuel and two-thirds of steam coal has given fair results. But one of the principal drawbacks to the patent fuel has been the heavy percentage of clinker and ash it has left after burning. But by a judicious selection of small coal, and having it well cleaned and washed, there is very little doubt but what it would meet all the requirements of the Admiralty, as well as of steam consumers generally, for it has been admitted by the Dockyard authorities to have some important advantages, for in their report they say—"We think the patent fuel would resist deterioration when exposed to the weather much better than ordinary coal, and on this account might be found specially suitable for shipment to the foreign coal depots, and that without difficulty it might be secured of a calorific

value nearly if not quite equal to the best steam coal now supplied." On the other hand, the Inspector of Machinery reported that the fuel supplied was not of sufficiently good quality for use in her Majesty's ships, producing a large amount of small clinker and ash that could not be used again. Everything, however, in our opinion, would depend upon the care in selecting and cleansing from all impurities, so that there should be little refuse in the shape of ash and clinker, which appear to be amongst the chief impediments to the use of compressed fuel in our own navy. But to bring it into general use for most ordinary purposes it is necessary that the price should be lower even than coal, which it appears not to be, for the Inspector of Machinery states that he was informed at Portsmouth Dockyard in 1877 that the price per ton of "Star" fuel was 26s., of "Crown" fuel 20s., and of mixed coal 17s. 4d., and, assuming this to be correct, the cost per 100 indicated horse-power per hour with the Star fuel in the Minotaur would be 87.75d., in the Black Prince 70.48d., and in the Resistance 78.41d., the corresponding cost with mixed coal being 44.75d., in the Black Prince 47.73d., and in the Resistance 41.97d. This, of course, shows a large margin in favour of coal as relates to price. But the probability is that the fuel was made from the best coal, the same as coke formerly was. Now, however, it has been proved that the best coke is produced from finely ground and washed slack, and this we believe will be found to be the case with respect to compressed fuel. With small coal suitable for compressing into briquettes at from 1s. to 1s. 6d. per ton, with modern washing machinery for minerals, and our most recent briquette machines, excellent fuel should be produced at a much lower cost than coal could be sold at. Were this proved, as no doubt it could be, steamers—especially those going on long voyages—would be benefited very much by taking it in preference to coal, seeing that the bulk would be so much less, whilst ordinary consumers, finding it cheaper, would also take it instead of coal, as the more economical and clean of the two. Such briquette machines as that of YEADON and CO., of Leeds, capable of making 36,000 per day at a cost for preparing, mixing, and making of under 1s. 6d. per ton, including 20 per cent. on interest on capital and depreciation from wear and tear, whilst 1s. per ton represents the actual cost of making without the latter items. A plant on the principle of the firm named for making 60 tons of fuel per day costs only 1500*l.*, including engine, Cornish boiler, two briquette machines, grinding and mixing pans, elevators, hoists, shafts, and drums, and 300*l.* for buildings, foundations, &c. The advantage claimed for Messrs. YEADON and CO.'s machine is that it presses the briquettes on both sides, by which a powerful pressure is put on without straining the machine. The material is filled and pressed from the bottom of an upright pug mill, with a second pressure on both sides of the briquette. The machine has a circular cast-iron girder fastened under the bed; to this are connected two upright levers, which are attached at the top to a double crank worked by the centre pendulum lever. The upright levers work two steam-heated plungers or rams, which press the briquette between them from both sides, leaving the briquettes quite smooth and square, and, if desired, there can be a panel with distinctive letter or mark on one or both sides. Briquettes are made without pitch or other expensive adhering material. As we have before stated, with good small coal at a very low price, leading to a loss to the colliery owner, whilst the converting of it into briquettes only costs at most 1s. 6d. per ton, it is evident that they could be sold at a much less price than coal, so that just now there is every inducement for colliery proprietors to utilise their slack so as to make it really profitable, and this it appears to us can be safely done by converting it into compressed material, for which a demand would undoubtedly spring up as the result of the low price at which it could be sold.

METALLIFEROUS MINES.

In looking at the production of our metalliferous mines now and what it was some years since one is struck with the marked changes that have taken place in all directions and in every way. In going so far back as 1855 we find that mining was in a very different state to what it was in 1878, and that the steady going in the former period contrasts in a singularly favourable manner with the present. Then we knew little of strikes, or disputes, or short working hours, whilst the working miners were far better off than they have ever since been. In some instances the output of minerals has decreased, and in others it has been the reverse; but in all there has been a considerable decline in the values. In copper the price shows how far from profitable the trade must now be as compared with former years, for we gather that in 1855 the average was 145*l.* per ton, or double what it now is, whilst there is about the same difference as regards tin, which in the earlier year averaged 120*l.* a ton. In 1855 the total quantity of lead ore raised in the United Kingdom was 92,330 tons, which yielded 73,091 tons of lead and 561,906 ozs. of silver. In 1877 the total of lead ore raised at home was 80,850 tons, while last year it was considerably less, so that there has been a gradual but certain decline in the tonnage of lead going on for some years in most of the districts where it is worked. In zinc ore there has of late been a considerable increase in the quantity raised, more particularly from the Isle of Man, which last year was credited with more than 9000 tons, being more than was raised in the whole of the kingdom twenty years ago. Cornwall, too, of late has yielded a much larger quantity of the same metal than formerly. Of the metals and their adjuncts the following list shows the difference in the yield between 1855 and 1878:—

	1855 tons.	1878 tons.
Black and other tin	14,947	13,632
Copper	195,193	54,568
Zinc or spelter	2,516	24,882
Manganese ore	—	1,734
Nickel and cobalt	342	98
Pyrites	81,040	58,000
Lead ore	92,230	74,771

Of the total quantity of copper ore raised last year Cornwall yielded 37,144 tons, and Devonshire 12,805 tons. The returns from Ireland, however, were only 1956 tons, about one-third that of the previous year. The value of the copper ore of Cornwall and Devonshire in 1855 was 6*l.* 8s. 6d. per ton—at least double what it was in 1877, thus showing the condition of the trade to be in a far worse state than is generally supposed when viewed in the light of what it was many years ago. Tin also shows to disadvantage, for the value of the metal in 1855 was 1,328,396*l.*, whilst last year it was only estimated at 660,000*l.* Of late years there has been a growing increase in the production of zinc or spelter, owing to the development of the lead mines in the Isle of Man, whilst Cornwall has also raised more than formerly. North Wales has also done better than formerly, but the production is far below the consumption, so that our own production has to be supplemented from abroad to the extent of upwards of 30,000 tons a year. The Great Laxey Mine in the Isle of Man is not only the largest producer of zinc we have but is also the richest in silver-lead; of the former giving an average yield of upwards of 8000 tons a year. Of the lead raised at it there is a yield of rather more than 40 ozs. of silver to the ton of ore. Like other metals lead has suffered of late years, owing to the large quantity imported and the low price it has been sold at during the last year or two the working of it has certainly not been attended with much, if any, profit to most of those engaged in the trade. By reference to the figures showing the quantity raised it will be seen that there has been a marked falling off last year as compared with 1855, and the returns for the present year promise to be even worse, owing to the many mines that have been closed in consequence of the unremunerative rates that prevail in the home and other markets. However, during last year Durham maintained its position as the largest producer, standing with 11,961 tons, or nearly one-sixth of the total yield of the United Kingdom. Montgomeryshire, owing to the productiveness of the Van Mine, stands next with 6164 tons, Shropshire 6164 tons, and North Yorkshire 4225 tons. Ireland is only credited with 1555 tons for last year, being rather below what it was in 1875. Pyrites are not so extensively raised now as they were twenty years ago, and the same appears to be the case with respect to nickel and cobalt.

Contrasting the two years 1855 and 1878 it will be seen that our metalliferous mines were in a far more flourishing state twenty

four years ago than they have been for several years past, there being a great difference in the prices realised during the two periods for ores of every description as well as for the metal itself.

OUR RAILWAY IRON IN AUSTRALIA.

The speech just delivered by his Excellency the Governor of South Australia, on opening the present session of the Parliament of that colony, was an interesting and important State paper. The speech or rather message—for, of course, it was a carefully prepared written document—was distinguished by three main features. First, it announced that it was the intention of the South Australian Government to proceed vigorously with the development of a policy of useful reproductive works. Secondly, it complained of the somewhat cold reception accorded in the London money market to the last issue of South Australian 4 per cent. bonds. Thirdly, it stated that the South Australian Government proposed, in order to strengthen the general credit of the colony, that taxes should be imposed upon property generally in South Australia, in addition to the three main revenue items of customs, excise, and Crown lands. It is obvious that this latter course will render every man, woman, and child in South Australia directly responsible for the stability of South Australian Government debentures, and this being the case the South Australian Government ought to be enabled to contract further loans at an average interest of 4 per cent. per annum, or at the most 4½ per cent. per annum, instead of 4½ per cent. per annum, or 4½ per cent. per annum. If this result is attained the South Australian Treasury will be enabled to proceed with more energy with the establishment of additional railways, and the execution of other miscellaneous public works.

In the absence of any definite development of Australian metallurgy at present, the South Australian Government will, in all probability, come to England for the rails which it requires, and hence the English iron trade has a direct and immediate interest in all our previous observations. Certainly South Australia is not the whole of Australia, although it is a good large part of it, but what applies to South Australia will be found also to apply in some degree to Australia generally. If the various Australian Governments adopt the ideas of the Cabinet of Adelaide, and impose new taxes on property generally so as to strengthen the public credit, we can but argue the happiest results from such a course. The rate of capitalisation on Government loans at the Antipodes would be at once reduced to 4 per cent. per annum; and as with the growth of Australian population, and the gradual development of Australian resources, it would be no difficult matter for Australian railways to remunerate the capital engaged in their construction upon these easy terms, we may expect to witness considerable further establishment of Antipodean railways. Upon the whole, we read with much approval and satisfaction the speech of the Governor of South Australia. It is always a good sign when a Government endeavours to drive a hard bargain with its creditors in the matter of the interest attached to its loans, as it shows that although such a Government may be economical, and even niggardly, it at any rate means to keep its engagements, and the fulfilment of public engagements is sure to lead to the establishment of public credit.

UTILISATION OF SULPHIDES AS FUEL.—The interest created by the publication of the Hollway process and of the results of his experiments is evidently not confined to this country. Some few weeks since we alluded to a communication of Mr. Pourcel, of the Terre-Noire Ironworks, in France, giving some very interesting experiments of his own on antimony ores; and we have also published communications from Sweden, France, Italy, Spain, and America. In American journals the invention has been freely ventilated, and we print elsewhere a letter which appears in an American contemporary calling the attention of their countrymen to it as offering means for developing many of their own properties otherwise unavailable. In testing such a process as this our cousins are sure not to be far behind us; but we trust that English mining proprietors will not so far fail in their wonted energy as to let the "other side" get ahead of us altogether. The invention is English, and of special importance to such large English interests that we trust the time of its proof and successful adoption is not far off.

THE STRONG FUEL-GAS IN SWEDEN.—This gas appears to have been successfully tested at Stockholm by a committee of metallurgical engineers, who confirm the statement that fuel-gas has been produced in this furnace by employing as well English coals, coals from Hoggans in Sweden, and anthracite coals from Wales, in the generator, and coal dust or peat-powder in the hopper; that the composition of the gas, by employing these different fuels, has been exactly the same as shown by the analysis; that the gas has been employed for welding wrought-iron, for smelting in crucibles as well pig-iron as steel; that the results of these three different experiments have been very satisfactory as to the heating power of the gas; and that the economical results obtained by these operations, though made on a small scale, are such as to fully satisfy us of the superior economical results that must be obtained when the operations come to be executed on a larger scale, in furnaces better adapted to the purpose. Thus they are convinced that this gaseous fuel will be the best, both effectually and economically, for most metallurgical purposes.

A NEW PATENT MINING CORF.—Everything calculated to minimise the cost of the working of mines in the present state of trade is sure to meet with attention, and for that purpose a new corf, patented by Mr. Taylor, of the Stafford Main Colliery, near Barnsley, has just been completed by a Sheffield firm, and will shortly be tested at the large mine belonging to the Barrow Steel and Iron Company. It is a marked improvement over the ordinary corf in every respect, and will be found particularly well adapted for mines where the depth from the roof to the floor is shallow. The corf is made to suit the gauge of the rails laid down from the pit bottom to the workings, which are generally from 18 to 24 in., and is made lower in depth than those now in use by from 6 to 8 in., but it carries fully the same weight, if not more. However, were it made the same height it would carry from 2 to 3 cwt. more in the same space, and with greater ease in running. In the patent corf axles are altogether dispensed with, as the wheels are fixed by pins, and act independent of each other, giving greater freedom and smoothness in running. The pins or centres are taper, so that when the corf sits on the wheels there is an entire absence of oscillation after it has been tipped over. The wheels and pins are cast together, and are made of malleable iron or steel, so that there is no boring as in the old corfs, which require axles, boring, and turning. In this respect a considerable saving of expense is effected, besides ensuring greater durability and ease in putting together in the event of anything going wrong. The incline pulleys can also be placed 2 in. higher owing to the peculiar construction, although the corf runs so much lower. About one half of each wheel—or more or less as required—is placed inside the corf, and these are covered over by a steel shield cast in one piece. A steel flange runs round the outside of the corf, being about 1 in. high, so giving additional strength to the bottom and support to the boards forming the sides and ends. The advantages claimed for the patent corf are simplicity of construction, ease in running, great durability and consequent economy in use. The corf, in fact, appears to be so constructed as not likely to get out of order with the roughest usage, whilst there is no difficulty whatever in putting the different parts together by an ordinary workman without the intervention of the blacksmith, and that in the course of a very few minutes, so that all delays are avoided. In adopting corfs lower than those now in use, but giving the same amount of stowage or carrying power, a great saving will be effected in many mines in not having to rip down so much of the roof to allow of their passing. Being strongly made and bound with iron or steel the patentees state that their corf will last five or six times longer than the ordinary ones. At the present time it may be said that the corfs in all mines are broken daily, for from lightly being made of wood they are at all times likely to be broken if not entirely destroyed, consequently

the cost for corfs at some places is a serious item of expenditure, for several men have to be kept constantly repairing and renewing. The patent corf would evidently dispense with a great deal of such work, so that a saving would soon be experienced in wages and material. The corf appears to be an important addition to recent improvements in mining appliances, and its advantages will no doubt commend it to mineowners, who have now to study economy in working more than they had to do previously.

RUBY AND DUNDERBERG CONSOLIDATED MINING COMPANY.

Following up the article in last week's Journal detailed reference may be made to the report of Capt. Rickard of the Richmond. This mine has during the past week had one of its periodical "starts," and the shares have risen in sympathy. It has, under his energetic management in explorations, constantly come to the front, defeating the schemes and prognostications of the "bears," who gloat over the trials and misfortunes of legitimate holders of stock. With regard to the Ruby Company, one cannot do better than offer a few quotations from this report of Capt. Rickard, this, with the general readers of the Journal, will be more effective than the technicalities of the report in *extenso*.—1. With respect to the machinery he says that it is in very good order, and all that is required for the present. 2. With reference to explorations, which are always so important, constituting as they do the very life element of all mines, Capt. Rickard remarks that no good exploratory work has been done. Operations have been confined to the extraction of ore.

The present company, as will be seen in the advertising columns, has raised 10,000*l.* in debentures for the purposes of exploration, which, in this extraordinary field, cannot fail to produce extraordinary results. Referring to the prospective issue of these explorations, Capt. Rickard expresses his opinion that the fissure on which the ore in the Dunderberg Mine has been found is clearly seen on the surface, and can be traced 250 ft. north and about 400 ft. south of the incline. In speaking of the extent of the company's property he gives quite a list of mines, amongst which is to be noticed particularly the Home Ticket. Concerning this mine he says:—

"This vein has only been opened to a depth of 125 ft. In the bottom there is a large mass of low grade ore pitching to the east. It is a very strong vein, which indicates permanence in depth. If the Home Ticket vein continues in depth and maintains an eastern dip it would not take more than 150 ft. of drifting to intersect it from the 400-ft. level of the incline, and as we are certain that there are two veins bearing ore in this belt or channel of limestone, there may be several others which do not show on the surface. This can be proved by drifting across the limestone until the quartzite is reached."

It would, therefore, appear pretty evident that the Home Ticket is an exceedingly good mine, and this, with the Dunderberg Mine, may any day prove a second Richmond or Eureka. The latter, we may remind our readers, paid last year in dividends to its fortunate shareholders 360,000*l.* sterling (not dollars).

Capt. Rickard's remarks upon the future of this property are most interesting. He says—

"I consider that the future of the Dunderberg property is very flattering, provided that the necessary work is done to develop it as it deserves. The property of the Dunderberg Company is in no way diminished in value by the ore already extracted. The ground within the boundary lines is comparatively intact. No work has been done on the western ground all the length of the claims, and certainly, taking the Home Ticket into consideration, this part of the property promises to compensate largely for the amount of capital necessary for its development. The amount of capital necessary for the work which I have prepared would be about \$50,000. If this amount is judiciously spent on the exploration of the Dunderberg Mine the company will be well remunerated for their outlay."

It must be gratifying to all concerned to learn that the public are appreciating the value of this enterprise, and that the debentures are being taken up.

DEVELOPMENT OF THE RAILWAY AND COAL INTERESTS OF THE WESTERN STATES OF AMERICA.

In the present depressed state of agriculture and trade in this country and in the Eastern States of America attention is being attracted towards the boundless producing capabilities of the Western States, which have been gradually brought nearer to the markets of the world by the construction of railways. The railway accommodation at present is but limited, and totally inadequate for the purpose of developing the vast agricultural and mineral resources of these states. Those railways already constructed have without exception been highly profitable investments, and those in course of projection having for their object the development of wealthy regions, will no doubt be equally successful. One great element in the success of railways in the Western States is the low cost of construction and the application of the narrow gauge system, together with reduced cost of maintenance and working, and we consider these investments well worthy of the attention of English and European capitalists.

The mining interests of the Western States are yearly expanding to an incredible extent. Hitherto the attention of miners has been chiefly directed to mines yielding ores containing gold and silver in the free state, known as "free milling ores," and reduced by mills and arrastres, but of late years enormous deposits of ores of baser metals containing a percentage of precious metals have been discovered, and smelting works have been erected to a very large extent in Utah, Nevada, and Colorado. We will mention as example the Richmond Consolidated in Nevada, whose weekly returns are known to most of our readers. The Bonanza in Utah, which produces an average of 90 tons of silver-lead per day, and has already netted for its fortunate possessors a sum of no less than \$3,500,000. The Ontario Mine, also in Utah, which has yielded in dividends \$2,200,000. There are of course a great number of smaller mines containing ores of the same character, some worked profitably, and many others which could be worked profitably but for the heavy cost of fuel. This want, however, seems likely to disappear ere long owing to the discovery and development of a great coal field in Southern Utah, and the projection of a short line of railway to connect it with the vast mining regions of the West. The effect of this command of cheap fuel in the midst of the mineral zone it is hardly possible to estimate both in regard to the enhanced profit made by already lucrative undertakings, and the stimulus given to working mines containing ores of a smaller percentage of base and precious metals. We have much pleasure in calling the attention of our readers to the advertisement (which appears in another column) of the Central Pacific Coal and Railway Company, to whom the above-named property belongs. This company is now issuing bonds for completing the construction of their railway, which is not alone projected as a mineral line, but also for the development of a vast coal-growing region known as the San Pete Valley. It produced last year over one million bushels of grain, and when an outlet is made by means of this railway enormous tracts of land will be brought under cultivation by the industrious Mormon population (consisting chiefly of English, German, and Scandinavians). Already Utah wheat has found its way to the London market, and more is on the road. This railway as a general passenger and goods line appears capable of yielding large returns upon the outlay needed for its construction; but when in addition the enormous mineral traffic of the coal and coke company is taken into account the bonds cannot fail to be a highly desirable investment when the management of the company is entrusted to persons of the undeniable ability and integrity of the gentlemen whose names appear upon the prospectus, including Sir Henry Tyler (late our Board of Trade Inspector of Railways) and Colonel Pasley, of the Royal Engineers.

The supply of charcoal in the mining regions of the West is now practically exhausted, and smelting establishments have been obliged to draw their supplies from Pennsylvania, a distance of 2200 miles, and the Richmond Company has exported coke from England via San Francisco, owing to the non-discovery in the Western States of any coal from which coke can be produced. The San Pete coal basin is the only deposit of bituminous coal discovered in these regions, and will, therefore, command a monopoly of the coke supply, the demand for which is so rapidly increasing. The coal field has been thoroughly examined by several well known authorities, including the agent of the Duke of Westminster, and their reports are all that can be desired. One very favourable feature in the undertaking is that it is thoroughly English in its con-

stitution and management, and every precaution seems to have been taken to determine the value of the property and the soundness of the title. In times of wild speculative excitement these points have been too little examined into, and the result has been disappointment in many cases; but in times of depression more care is taken, and we are of opinion that the bonds now offered to the public are well secured, and will form a safe and lucrative investment. The bonds at the price of issue will yield 8*l.* 17*s.* 9*d.* per cent. The bankers are Messrs. Ranom, Bouvier, and Co., 1, Pall Mall East, and the secretary Mr. S. J. Smithers, of Moorgate-street Chambers.

MINING IN DENBIGH AND FLINT.

The geological features of the Flintshire and Denbighshire mining ground are so interesting that we may be excused if we go over the ground once more. The mineral deposits of lead and blende are found in certain sections of the limestone strata and also in the grit, the former overlying the bluestone, and the latter being the base of the coal formation. The range of this district is north and south, the measures dip eastward, and the bearing lodes have generally an east and west strike, but there are other channels for lead deposits having a horizontal position, termed the "flat measures," of extraordinary richness and value, being in places as much as 30 ft. thick of ore, situated between the limestone and the grit the lower one, and the grit and limestone beds above the upper one. These remarks will apply generally to the district, but there are peculiarities in the grit formation well worth a passing glance. The lead is deposited in well defined lodes in that portion between Talargoch and Old Hendre, and a little beyond in a south direction from which point its character is changed for miles in length in its course towards Minera, in which are found the flat measures having those horizontal lead courses before described. It may be well to observe, however, that such lead courses are always found lineable with the lodes in the lime rocks, and in no instance has there been a failure in such positions when properly opened and tried. The flat measures vary in thickness from about 14 to 25 yards, and the lead courses are not only soft and inexpensive to explore everywhere, but the ore is so cheaply broken that thousands of tons of lead have been taken and brought to surface for less than 10*s.* per ton, so that the margin for profit is great, even with lead ore selling at 8*l.* per ton, and the great importance of mining in this measure in these times is easily conceivable, particularly when judiciously carried out in well selected positions, which in almost every instance ends in success.

In Gwernynydd there are several magnificent lodes. Some have been worked, and left rich; others are whole from end to end, with all the known indications of success; but in every instance the flat measures where explored have been immensely rich—Gwernynydd on the Cat Hole lode, and Fron Fawog on the Pant-y-buarth tribe, one of the lead courses in each having been only partially worked. It is to work these flats or lead courses between Fron Fawog and Gwernynydd inclusively that the Gwernynydd Company (Limited) became a fact, and already an engine-shaft is being put down in the latter, and the water pumped out by a magnificent 85-inch Cornish pumping engine in the former, with trials making in the upper lead course, which is whole and unworked for 1000 yards in length on the course of the lodes, and in which we understand that already indications of an unmitigable nature, accompanied by some beautiful specimens of ore, are met with daily. We, therefore, hope and believe that their success, which, as we have before hinted, in these times they so richly deserve, is not far off.

REPORT FROM CORNWALL.

July 31.—Week after week is passing by with the barest modicum of intelligence to record. There has been no change worthy of note, nor is there any immediate prospect of any, and still there is nothing for it but to wait. One does not look for any sanguine anticipations from this quarter of Chyandour, and we see that Mr. A. K. Barnett, who took Mr. Wellington's place at the last Levant account, rather threw cold water on the idea that the Australian supply was falling off, and held out no other hope for an advance in the price of tin than the general revival of trade and commerce. Well, we too look for such a revival, but it is a fact meanwhile that the Australian produce is decreasing.

Do-coath still holds its own, and again this fine old mine has succeeded in raising more tin in the last three months than ever before, notwithstanding the delay necessarily caused by the operations in connection with the new skip-road. The advantages of boring-machines are being tested in a rice, which is being put up admirably. The only thing to be regretted in the report is a point that really does not affect the adventurers—the dismissal of 60 children employed on the dressing-floors under the Factory Acts. As Capt. Josiah Thomas said—"The fact is that all children between the ages of ten and fourteen would, under the operation of these Acts, either have to be dismissed from the mine altogether, or work only on half-time. We have carried out the Acts as we were requested to do by the Inspector; we could not, in fact, help ourselves in the matter, but since then several of the children have returned to work on half-time. That is to say, that they work and go to school on alternate days, and the Acts are so very stringent in their operation that unless the children make the requisite number of attendances at school during one week we are not permitted to employ them at the mine in the following week. Whether any modification of these provisions can be obtained by an appeal to the Chief Inspector or to the Home Secretary, I am not aware. It will not, of course, affect us so much as it will the parents of the children. I am afraid that it will affect some of them very seriously indeed, and the result of that will be, I suppose, that it will come back to be a charge upon the rates. It would be a very great boon to the parents if there could be such a modification of the Acts as to lessen the age to twelve instead of fourteen, but whether that can be done we are not in a position to say. All we know at present is that we have instructions to carry out the Act as it stands." This is an important point in connection with the personnel of mining generally.

Dr. Foster still finds plenty of work. He summoned on Saturday, at the West Powder Sessions, Dr. Whitworth, a large shareholder and purser of North Treskerby Mine, in conjunction with Captain Martin George, the manager, for omitting to provide a dry for the men working underground, in which they could properly dry their clothes, which omission was an offence under the Metalliferous Mines Regulation Act. Capt. George was also summoned for not having in the office a proper and accurate plan of the workings of the mine, showing a section of them; also for neglecting to fence the entrance to the shaft in the 24 ft. level, and also for unlawfully failing to cause an adequate amount of ventilation in the mine. Mr. R. M. Paul appeared for the prosecution, and remarked on the different offences, and said the air was found so bad in one place in the mine that a candle would not burn. Mr. Marrack, on behalf of the adventurers, admitted that technically they had contravened the Act, but he would plead extenuating circumstances. Dr. Whitworth was put in the box, and stated that they were now building the dry, and it would soon be ready for use. Captain George explained that the bad air had been remedied, and said it arose from a trap-door having been left shut, of which he was not aware. The shaft had been fenced as quickly as possible, and he had made a plan of the mine, as requested. He had previously a plan of his own which he could work by, but it was not sufficient for the Government Inspector. Dr. Foster said he had been complaining 18 months about the dry, and it was not finished when he was there on July 1. Four walls were built. He had no doubt the other matters had been attended to. Mr. Marrack said this was, unfortunately, not a dividend-making mine, but a call-paying one; and like the prisoners at Taunton, the defendants would throw themselves on the tender mercies of the Court. They were fined together 1*l.* and costs.

Every effort is being made to make the Miners' Association fact, which is to be held at Tisbury on Monday, a success, and enable it to clear the organisation from debt. There is a very hard working committee, who have succeeded in obtaining contributions for the bazaar which will place it among the most attractive of the kind

ever held in the county. Under a spacious marquee there will be a large variety of important exhibits, including a collection of water-colour and other drawings, in which local scenery will occupy a prominent position. There will also be a good display of minerals of all kinds, models of crystals, a handsome set of facsimiles of the principal diamonds known to the world, a great variety of beautifully wrought needle work, and a host of other attractions. A fully provided refreshment stall, the generous gift of Mr. Bassett, will have its place inside the bazaar marquee. Out of doors there will be plenty of amusements. Several volunteer bands are announced to be present, so that there will be no lack of music; the boating on the lake is sure to be a source of much enjoyment, and the battalion-drill of volunteers, which takes place during the afternoon, will be preceded and followed by athletic sports, which will doubtless attract a large gathering. In addition to all this there is the opportunity that is afforded of a ramble through the grounds, which will be fully thrown open to the public on the occasion. Several excursion trains will run during the day, and we hope the result of the fête will be such as to largely benefit the funds of a very useful and valuable institution, which has done an enormous quantity of work with very small means.

The last two numbers of the Mineralogical Magazine are among the most important this useful society has issued. Scotch mineralogy occupies a prominent place, and there is an excellent geological map of the Shetlands by Prof. Heddle.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

July 31.—Pig-iron is not selling with freedom either as to best or common descriptions, and masters would much like to be placed in a position by the condition of the market to produce a larger output. The agents of firms at a distance are not doing an average amount of business, yet the pigs which they offer can be purchased on very favourable terms. Best Staffordshire and Shropshire pig makers quote 85*s.* for cold-blast all-mine iron, and from 60*s.* to 65*s.* for hot-blast sorts. Good part-mine pigs are priced at about 55*s.*, and common cinder pigs are easy at 1*l.* 17*s.* 6*d.* They may be had at as low as 1*l.* 15*s.*, and I hear of a few sales at even 1*l.* 14*s.* 2*d.* per ton. The mills and forges are kept going upon small orders for miscellaneous sorts of finished iron. The sheetmakers are doing as good a trade as any of the other branches, and this week's Australian mail has brought some new orders. The demand for coal remains the same as a week ago. The Cannock Chase masters have determined to adhere to their circular calling upon the coal dealers to supply them with registers of their boats.

Colliers' wages in South Staffordshire are at present regulated by sliding scales, and without desiring to break through these the men are wishful of securing higher wages than now exist as soon as possible. At a special conference of representative miners held at West Bromwich, on Monday, the following resolution was passed:—"That considering the present low state of wages of the miners of East Worcestershire, South Staffordshire, and Cannock Chase, this conference implores the masters in these districts, as soon as convenient to the trade, to so advance the price of coal as to enable them to give the miners the same rates of wages as they formerly received." The Conference occupied much of its time in discussing the question of a better organisation. At the same time that it was determined to hold open-air meetings in various parts of the district in advocacy of this object, the lodges were requested to allow miners "to pay into the labour fund without their being compelled to subscribe to the sick and funeral fund as well."

The colliers employed by the new North Staffordshire Coal and Iron Company, at Kidsgrove, have accepted a reduction of 2*l.* per cent. in wages. When the manager of the pits proposed the reduction a fortnight ago the men refused to submit to it, and the directors at once gave orders for the cessation of all contracts. The men who have been working nearly full time then consented to the reduction, and have commenced to work on it. Between 300 and 400 men are concerned.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

July 31.—Mining of every description in Derbyshire is in an unsettled state, and complaints are still nearly general as to its being unprofitable. In the lead districts business is quiet, and can only be made to pay by those who have plenty of capital and machinery. Some workmen who have opened out on their own account, as they can do by the mining laws, struggle along in the hope of something turning up that will repay them for past exertions, but this is not likely to be realised. The price of lead, too, is greatly against both the owners of mines and the miners as well. At the collieries business is also quiet in all directions, and many of the men are not working more than half time, and appearances are certainly against any improvement taking place for some time. At Ripley the pits are as bad as at most other places, and a large number of houses are now unoccupied. The trade with London in house coal is far below what it was even a short time ago, even from such well-known places as Clay Cross, Eckington, Tinselt, Langley Mill, &c. Prices have also declined, so that whatever business is being done is without profit. The quantity of steam coal going away is also less than is usual at this period of the year. Several collieries, it may be said, are still closed, so that a considerable number of colliers are walking about, living on their own means and whatever they can obtain from others. At Unstone it was expected that the men would be at work in the early part of the week, but they would not submit to the reduction they were asked to concede. At two or three places the men have received intimation that if work is to be continued they will be obliged to submit to a reduction of wages. There are comparatively few ironstone workers in Derbyshire to what there were a few years ago, as our ironmasters find it as profitable to purchase from a distance. There has been very little change with respect to the Iron Trade, which is still quiet, although no doubt Derbyshire pig sells as well as most others, for it has a fair reputation in most of the leading markets where it is sold. At the works of the Butterley Company, about the largest in the country (or, it may be, with the exception of Staveley), trade for some time has been anything but good at the mills or other departments, and the number of hands employed is far below what it formerly was. Bessemer rail makers continue to do well, and large quantities have been turned out at Driffield, which has now a high reputation for its steel, whilst Mr. Wilson, one of the partners, has patented composite plates for vessels of war that are likely to meet with the approval of our Admiralty.

In Sheffield there is not quite so much activity in one or two branches, but taking the trade altogether it is, perhaps, better than during any previous part of the year. The mills have been running steadily, and rather more is being done in steel plates of various qualities, some being intended for steamers and others for boilers, and there appears to be a growing demand for steel for both purposes that promises in time to extinguish those made of iron. Bessemer rails too are in good request, and some orders have been received on account of some of the home lines that will take some time in completing. In some branches of the heavy iron trade a tolerably fair business continues to be done, as there is also in tyres, axles, and connecting rods. One or two firms are also turning out considerable quantities of telegraph and other wire, but in light implements the season so far has been anything but a good one. So far our colonies have been good customers for edge tools, sheep-shears, cutlery, and other goods, Australia, as usual, taking the lead. File makers continue quiet, and not so much is being done in general cutlery as there was a few weeks since either on home or foreign account. Spade and shovel makers have been doing tolerably well, and some of the wagon builders have become busy; on the other hand, machinists and engineers are still doing comparatively little, and those two branches have been about as badly off as any others in the town or district.

The Coal Trade of South Yorkshire is still in anything but a healthy state, several hundreds of men being idle, with every prospect of a large addition to their number before long. What business is being done in most instances involves a loss, whilst the men are strongly opposed to submit to a reduction of wages under any

circumstances. In one or two instances they have done so, and of course greatly to their own advantage. In steam coal a tolerably fair business has been doing for exportation from Grimsby, but the prices are low, for companies are being supplied at less than 6s. per ton.

The horse rail trade of Belper at the present time is in a very depressed state, so that owing to the heavy stocks the workmen are not doing much, whilst the wages paid are very low.

At the Carlton Main Colliery, one of the largest in the Barnsley district, the men have been informed that the company decline to be guided by what wages are paid at other collieries in the district, and will require something like a 20 per cent. reduction.

On Monday the foundation stone of a hall in memory of the late Mr. J. Mitchell, the managing partner of the Swaithes and Edmunds Collieries, Worsborough-dale, near Barnsley, was laid with full masonic honours by Mr. Josse, of Grimsby and Paris, one of the largest shippers of Yorkshire coal. The late Mr. Mitchell may be said to have laid the foundation of the present populous and thriving hamlet of Worsborough-dale.

NEW PROCESS OF CONSTRUCTING BOILERS.—A number of engineers visited the Park View Steelworks, Owlerton, near Sheffield on Tuesday, for the purpose of witnessing the new process of producing weldless and seamless steel or iron boilers, which has been patented by Mr. George Whitehead. Among the gentlemen present were—Mr. Buckworth (the representative of Messrs. Galloway, of Manchester); Mr. Lange (Messrs. Beyer and Peacock, of Manchester); Mr. Halsey (Messrs. Sharp and Stewart, of Manchester); Messrs. Holt and Jackson (Midland Railway Company); Mr. Bagshaw (Messrs. Spencer and Sons, of Newcastle); Mr. Hill (Messrs. S. Fox and Co., of Despar); Mr. Richardson (Messrs. R. & Sons, of Lincoln); Mr. Bentley, of Penistone; Mr. Hewitt (patentee agent); and Mr. M. Ehrenfeldt, of Sheffield, who is acting for the patentee. Mr. Whitehead is an engineer of considerable experience, he having been engaged to carry on a variety of experiments for Dr. Siemens at the Landore Steelworks, South Wales, Krupp's manufactory at Essen, and the Terrenore Works, France. What the inventor claims for his process is that by it he can within the brief space of six hours construct the shell of a boiler of a more durable nature than those now used. The process as demonstrated (of course on a small scale) to the visitors yesterday is very simple indeed. A ring of steel is cast and whiteheated. It is then removed from the furnace by means of cranes and placed upon a large roller which is capable of performing 200 revolutions per minute, providing that sufficient steam is maintained. By the aid of this roller and sets of smaller rollers the ring is expanded to the required dimensions, and when removed is fit for use as the shell of a boiler. The ring, by this process, it must be understood, is run from one end of the roller to the other, and is returned by a revolution of the machinery, which is certainly one of the most important features of the invention. The other portions necessary to make a complete boiler are subsequently put on with L and V bolts. It is asserted by Mr. Whitehead, who was present at and directed the trial, that by this process he can construct boilers which will stand twice as great a pressure to the square inch as welded and riveted plate boilers. The general opinion of the gentlemen present, so far as could be gleaned, was that the invention was an important one and workable, the only question being whether the expensive nature of the ponderous machinery which would have to be erected in order to construct large boilers by this process would not render the cost of the article far greater than it is at the present time.

TRADE OF THE TYNE AND WEAR.

July 30.—The Coal and Coke Trades continue good, and shipments of most kinds large. The quantities delivered at Tyne Dock and other points have been fully up to, or rather over, the average. The imports of grain, esparto, lead, iron ore, &c., have also been large. The Steam Coal Trade in Northumberland remains in a satisfactory condition. First-class collieries are well supplied with orders, and the shipments during the past week have been good. There is, however, some slackness in the demand for second-class coals. The pits in the Bedlington, Cowpen, and Blyth district generally are well employed. Great improvements have been made at the port of Amble lately, and the exportation of coal has increased. The Broomhill, Ashington, and other collieries in the immediate vicinity continue to be well employed. Taken as a whole, the present state of the Northumberland coal trade at such a period of commercial depression is highly satisfactory. In Durham, on the whole, matters are in a similar state. Most of the first-class works are well employed, and as the decision of the umpire in the arbitration case has been given, which only allows a further small reduction, there is no doubt that it will be accepted by both parties.

A company is being formed to acquire and work coal and iron mines in South Durham and Cleveland and other works owned by the Messrs. Carlton. It is understood that the title of the new company will be the Evenwood Coal and Iron Company. The iron ship-building trade on these rivers continues, on the whole, good, and as a consequence marine engine and boiler makers are also well employed, but other engineers are only scantily supplied with orders, as there is little demand for land engines and boilers. The Elswick Works are well employed as usual, and Hawks and Co.'s great works in Gateshead are doing well. There is also improvement at Abbott's Works, and at Black Hawthorn Works orders are expected for 11 locomotive engines shortly. The chemical trade continues firm, and prices, though low, have an upward tendency, and as there are small stocks in hand the make is likely to be increased. The Jarrow Hill Chemical Works, which have been standing some time, have been again started.

The Iron Trade here and in Cleveland shows little change, but there is a slight improvement. At Middlesbrough on Tuesday the market was well attended, and the demand was larger, prices firmer, and all round an advance of 6d. per ton was made. Makers quote No. 3 33s. 6d., with few exceptions, and No. 4 forge 32s. Stocks of iron in Conall's stores stand at 80,700 tons, an addition of 700 tons last week. Little doing in warrants. The shipments of pig-iron remain pretty steady, and are about equal to those of last week. About 13,000 tons having been shipped from Middlesbrough. The Baltic ports have received a fair quantity of iron. Deliveries for Germany and Scotland have been restricted; the latter was more than 2000 tons under the average.

As stated last week, arrangements have been made for stopping furnaces; Messrs. Downy and Co. are already damping down. The Tees have also given notice to their men. It is likely that other firms will also follow. Thus the make will be reduced. The Middlesbrough Galvanising Company are introducing a new branch of trade, the manufacture of galvanised iron buckets. Great distress still exists in the district, and means of employing men at test labour, sending them to collieries or otherwise, are under consideration, such is the amount of surplus labour in the iron trade. The finished iron trade keeps very dull, and is not likely to increase with the great development that is taking place in steel. No change in the price of this class of iron. The Coal Trade is quiet, and a smaller demand for coke.

The Northumberland Miners Association annual demonstration has taken place at Blyth, and although the weather was not favourable the attendance was quite up to the previous year. The chair was occupied by the President (Mr. J. Bryson), and Mr. Burt, M.P., and Mr. Macdonald, M.P., were the principal speakers. The speeches possess much interest, but we only give a short abstract of them. The Chairman said that a number of opinions had been given as to the cause and effect of the prevailing bad trade of the country. He was inclined to favour the view that too much capital and energy had been put into mines, factories, and workshops. When he said "too much," he meant more than there was really remuneration for. While this had been done the vital question of free trade in land and the better cultivation of the soil had not received the attention due to their importance as a means of promoting the well-being of the people. Then, he would say, let the people bestir themselves on the land question, as in that direction the next step must be taken. A letter was then read from Mr. Cowen, M.P., who was unable to attend, in which he desired to impress upon the miners the necessity of maintaining at all costs their trade organisation. Union was desirable at all times, but doubly so in periods of commercial depression. No one was so foolish as to suppose that a trade society can arbitrarily raise their rates of wages, or can even keep them at a higher level than the market will afford. But it has been demonstrated times out of number, and in no place more successfully than in Northumberland and Durham, that the miners by being organised can command the best remuneration for their labour that the circumstances and positions of the employers will enable them to pay. Mr. Macdonald, M.P., in the course of his remarks, referring to the subject of protection and compensation, said that there was a great waste of human life still going on

in mines, notwithstanding the diminution during the last 30 years. They wanted further protection, and his voice was against neglect and recklessness, whether on the part of employers or employed. He feared the session would pass without anything being done in the shape of active legislation, but if it should be so he did not know that the cause of compensation would suffer. He also said that the mass of men, or the workers, must organise labour for their advantage, and let the eater, not the producer, come second best in the race. Mr. Burt, M.P., said that while Unionism had been wrecked, or at any rate riddled, and almost dissolved in many parts of the country, the miners of Northumberland, notwithstanding the pelted and merciless storms of adversity which they had had to face, had remained as strongly united to-day as they ever were in any previous period of their history. As an instance of how much good the Association had done, something like 17,000 had been distributed among the workmen thrown out of work, &c., during the last three years.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

July 31.—I am happy to record the commencement of a marked improvement in the slate trade of North Wales. A great number of vessels have cleared out of Portmadoc laden with slates, and the loading of others is going on briskly. The men at the Festiniog Quarries are working more regularly, and there is even a scarcity of some sized slates. Among the recent improvements noticeable at Portmadoc may be mentioned the siding made by the Cambrian Railway Company for the accommodation of the Gorsedda and Portmadoc narrow gauge railway. It only remains for the owners of the latter to lay their rails alongside this siding for their railway communication to be completed. There are considerable mineral resources along this little line, which is about 14 miles long, which only need a little money for development. At the further end there is the Pennant Vale Slate Quarry, which should be connected with it. Next, there is an opening made in good slate rock at Cwm Dwyfor; then there is the Prince of Wales Slate Quarry, whose development was nearly completed when the funds of the company failed. Nearer to Portmadoc there is the great slate quarry of Gorsedda, with capital slate rock laid bare on its various galleries, and especially in its deep levels. Close by is the new brickworks, erected for working the fine clay that lies under the extensive peat bog of Ereniog (query, is this the Brynkir Company's property). Above Penmorfa, and about two miles from Portmadoc, are the recently opened Queen's Stone Quarries, developed and equipped for an extensive production of paving setts of the first quality. On the same range of rock several other sites have been taken for sett quarries. This class of enterprise is busy in the district, some of the quarries having more orders than they can execute.

Another long and much needed improvement has just received the Royal sanction in the Portmadoc, Croesor, and Beddgelert Railway. In the railway furor of 1863-4 a railway was commenced between Portmadoc and Beddgelert, and the earthworks were constructed for half the distance, which are still in a good state of preservation. The existing Croesor line is a 2-ft. gauge line, that runs from the quay at Portmadoc to the Croesor Slate Quarry, on the Festiniog side of Beddgelert valley, and it is intended to utilise this line as far as practicable. A local paper says we shall, therefore, soon see "the defiling of the pass of Aberglaslyn." I do not yield in my love of the picturesque and beautiful to the writer of these words; but I shall, indeed, be glad to see a railway train defiling up the pass. It will certainly be in as good taste and keeping with the scenery as the rickety omnibus that now rattles up the pass, along a road that is soft and rutty all the winter with excess of traffic—to say nothing of a traction engine and its train of slate wagons. There are great mineral resources up this valley, which I will describe on a future occasion.

The traction engines which formerly plied between Porthywan and the slate quarries at Llangynog have ceased doing so on account of the litigation in which they were incessantly involved. The consequence is that the Rhinwarth Slate Quarry only employs half the number of men it used to do, and they are only employed half of their time. The price of coal has also advanced 1s. 2d. to 2s. per cwt., and other necessities of life and trade in proportion. The letters which come to me from miners in that region are most pitiful—men able and willing to work who cannot obtain it, and whose wives and children are starving. I hope the guardians of the public interests will soon be satisfied—a decrease of highway rate and an increased poor rate, combined with high prices for food and fuel, and a starving population in the midst of vast mineral resources, is at least a change from the plenty and content which once smiled over this region. It will, of course, keep the people humble, and give the agriculturists cheap labour, whereby hangs a tale which I must keep for another time. The receipts of the local railways show a falling off. I am glad, however, to record an approach to what I have several times urged in these reports—working arrangements between the Cambrian Railway Company and the Mid-Wales towards Swansea, and with the Manchester and Milford towards Carmarthen.

Our lead mines are working as usual. Referring to copper mines I would like to bear testimony to the integrity and ability of Capt. Mitchell, of Parys Mountain, under the recent attack upon him; and I would be glad to know whether in the report from the Cambrian Mines it is meant that there are 5 tons of copper ore to the cubic yard or to the yard forward of the lode—if the latter, what is the size of the working? A Mr. Radcliffe, a town councillor of Liverpool, has been making himself ridiculous in his opposition to the scheme for supplying Liverpool with water from the upper part of the River Vyrnwy. He talked as if there was not an ounce of hard rock on which to build a wall in that region, and as if the conduit was to be conveyed through the salt mines of Cheshire.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

July 31.—The Rhymney Railway Company declares for the last half-year the largest dividend it ever has—at the rate of 8½ per cent. per annum. The sum placed to the credit of the reserve fund is 1500l., and about 244l. carried forward to the next account. The Taff Vale Company have given to their men notice of a general reduction in wages. At the Tredegar Iron and Coal Company (Limited) annual meeting a dividend of 2½ per cent. was declared. The balance of the year's profits was 37,386l., and after payment of the dividend 20,261l. is carried forward.

Mr. Wheelhouse, Q.C., who represented the Home Office at the Dinas enquiry, has submitted his report to Parliament. He first of all states that the books, papers, records, &c., of the mine appeared to be all kept. He does not agree with the jury that the explosion was attributable to a sudden outburst of gas, but to an accumulation in Morris's heading, which was not only preventable to a large extent, if not wholly, but which was not sufficiently controlled or dealt with by those in charge of the mine. Had it not been for the finding of the jury that the explosion was accidental he should certainly have thought that Samuel Hughes, the manager, John Chubb, and perhaps John Ace, foreman, had been guilty of such negligence as to render them liable to an indictment for manslaughter; and, if any indictment were preferred, it admitted of some doubt whether Mr. G. H. James, consulting engineer or agent, ought not to be included. Further on Mr. Wheelhouse says, "On the whole, therefore, disastrous as the explosion has been . . . I do not think any criminal or penal proceedings would result in a verdict against the accused," but he adds that he would like the opinion of the law officers of the Crown on the matter.

Rejoicings have taken place at Cwm Avon on the coming of age of Mr. A. J. Shaw, son of Mr. James Shaw, who now carries on the late works of the Governor and Company of Copper Miners. An entertainment was provided, and success wished to both Mr. Shaw and the works. A presentation of a silver cup was made to young Mr. Shaw, as well as an address. At Pontypridd Police Court the Great Western Colliery Company have been summoned for 50l. odd poor rates. The old company has ceased to exist, and the new one deny the liability. An adjournment of the case took place.

There appears to be some improvement, slight though it be, in the

Iron and Steel Trades of the district. Certain it is that at one or two of the establishments there is more doing. One satisfactory sign is that shipments have again been going forward to the United States; nearly 1800 tons have been shipped during the week to this quarter. Besides, there are reported to be some fair enquiries on American account, but the tariff stands in the way. Masters are cutting prices as low as possible already. Clearances have also taken place to South America, and other quarters. There is a fair amount of business doing in steel rails, but at late rates. Railway iron, too, is apparently a little more active. Bars are unchanged.

As for tin-plates the demand is not so good, and prices are rather more in favour of buyers. The employers seem desirous of reducing wages, but have not yet carried out the intention. A meeting of men has been held at Llanelly, at which it was resolved to resist the reduction, but to ask for arbitration should the masters try to reduce wages. Matters are almost unchanged in the coal trade. There is a fair demand for steam coal, and now that the dispute with the men is over the output has improved, and shipments are recovering lost ground. The foreign demand is fairly good. Prices are steady, but unaltered. As for house coals they still continue rather slow, but there is a movement in the patent fuel trade. At the Great Western Colliery there has been a wages dispute, but the men have wisely gone to work on the day to day system until an arrangement can be come to. The men at the George Inn pit are still on strike, but at the White Rose Colliery, New Tredegar, they have gone in at a reduction of 10 per cent. There are said to be prospects of a re-opening of the old Abercarn pit.

The following particulars regarding the Treverig Valley Railway Bill will be read with interest by colliery speculators and the people of Pontypridd generally. As is known, the Royal assent has been given to the measure. Mr. Walter Morgan, of Cardiff, was the solicitor for the bill, and Mr. David Morgan the engineer. The railway follows the Treverig Valley from the south to the north end, forming a junction with the Great Western and the Taff lines. It will open out a means of transit for the large field of coal in the Treverig Valley, estimated at about 4000 acres, which it is computed will yield three hundred million tons of house and steam coal. On the north of the valley Nos 1, 2, and 3 of the Rhondda veins outcrop, and can be worked by levels over a great extent of land. The Penygarn and Tydee veins also lie under large tracts of unlet property, and will be workable by levels. These facts justify a hope that a means of transit for such valuable coal measures as described will result in a rapid development of collieries similar to those in the Rhondda and other valleys, and bring back the departed activity to the Pontypridd, Llantrisant, and Lantwit-Fardre.

REPORT FROM THE FOREST OF DEAN.

July 31.—The staple trades of the district are at a low ebb at present, nor are there any reliable indications of a near revival. As we recently intimated, there are very few of the collieries or other works working at a profit; because, if one department pays another losses, so that in striking a balance for all the departments the sum total to the advantage of the firm is merely nominal, or possibly an amount has to be entered against the concern. We are aware that employees allege that as the employers in prosperous times make large profits out of their labour, it is nothing but fair that the employers should also occasionally lose on their work by paying back some of the realised profits. And in a qualified or restricted application of the principle we admit that it may be an equitable and reasonable thing to do, but if admitted without the check of prudence or business prudence, we know that "smash" and "ruin" will speedily follow in the wake of all concerns thus conducted. The hope that the opening of the new Severn Bridge, now nearly completed, will give an impetus to our coal trade, we consider to be a reasonable one. The vessel now trading to Sharpness Docks ballast at an expense of 2s. 6d. per ton; if the Welsh coal is some 2s. per ton lower than the Forest diamonds the ballast impost will about equalise the prices for Welsh and Forest, and thus enable the Forest proprietors to compete at Sharpness with Welsh coalmasters, and strike a bargain somewhat in their own favour, although we expect that competition will be very hard and sharp. We were informed the other day that there were 30 vessels at Sharpness Docks, and on the supposition that each instead of ballasting took cargoes of coal, we could reasonably calculate that our export trade would reach 500,000 a year, and supposing that the port should grow into favour for an import trade, we do not think it an improbable thing but that the export of coal may ultimately reach 1,000,000 tons a year. But, of course, the price charged for coals will very materially influence the trade in the article either way. If the Forest proprietors intend to avail themselves of the possible advantages to be derived from the opening of the bridge they will have to adapt their prices to meet and defeat the Welsh competition. An early opportunity is likely to present itself for an attempt at getting the first innings, as the bridge is likely to be opened in the course of a few weeks from the present date.

The Whimsey and Mitchell-road Railway line is now drawing towards its completion, as both tunnels are nearly finished, but at the Forest end of the Hawthorn Tunnel there remains some hard rock excavation to be effected. The first engineer mistook his level by 15 ft., which necessitates some lowering of a piece of lime already laid, and the excavation just specified. There is also an embankment to be completed between Nailbridge and the Steam Mill, but all to be done necessary to opening the line for goods and minerals could be done in two or three months easily by men of energy, but whether by those who have it in hand remains to be seen. No stations are yet fixed upon, but when that matter is taken up the one for Cinderford should be at Holly Hill Wood, opposite the Severn and Wye station at Bilson platform.

The Tin-Plate Trade is still carrying on, but prices are low. The Forest Vale Works are in full operation, but profits are small, and the iron miners are only partially engaged, and the furnaces, though not blown out, are only in operation on a very limited scale. Prices are down throughout the district, with one exception—that is, the price of coal to the country trade and local custom, which ranges from 2s. to 2s. 6d. per ton higher than is charged to the merchants.

THE TIN TRADE.

	June 30, 1879.	July 31, 1879.	July 31, 1878.	July 31, 1877.
Straits and Australian, spot..Tons	9,943	10,045	9,525	8,386
Ditto, landing.....Tons	540	384	550	1,223
Straits afloat.....Tons	408	240	525	175
Australian afloat.....Tons	1,498	1,944	1,825	2,481
Banca, on warrants.....Tons	1,554	1,944	1,825	2,481
Billiton, spot.....Tons	1,985	1,845	1,643	1,621
Ditto, afloat.....Tons	1,380	1,100	1,370	800
Australian tin in Holland.....Tons	208	220	423	700
Total.....Tons	17,211	16,839	17,399	16,772
Deliveries during the month in				
London.....Tons	1,052	1,113	865	1,001
Ditto, Holland.....Tons	822	663	663	415
Total.....Tons	1,874	1,776	1,528	1,416
Shipments during the month from				
Straits.....Tons	260	160	525	120
Ditto, Australia.....Tons	600	575	540	335
During first 7 months. During first 7 months. During first 7 months. During first 7 months.				
Shipments from Straits to London.....Tons	2,555	2,310	2,430	2,430
Shipments from Australia to London.....Tons	4,081	5,275	5,275	5,275
Deliveries of tin in London.....Tons	7,632	6,928	6,059	6,059
Deliveries of tin in London and Holland.....Tons	12,232	10,613	9,974	9,974
Banca in Trading Company's hands and afloat, 1138 tons.				

London, July 31. There is very little of interest to report about our tin market during this month. Prices at the beginning receded another 1½, which decline was speedily recovered upon increased buying on the part of the syndicate. The greater part of our stocks being still in one hand, the general attitude of the trade continues to be one of extreme caution. Transactions in consequence are very limited, and speculators seem to have abandoned the article altogether. While the present state of things lasts this course is to be highly commended. The Dutch Trading Company's fourth sale in 1879 took place yesterday, when 23,296 slabs Banca were sold from 38½ fl. to 39½ fl.; average, 38½ fl. Next sale will be held towards the end of September. Banca: With very little business, the price declined from 39 fl. to 38½ fl., then again advancing to 38½ fl. Since the sale there are buyers at 38½ fl.—Billiton: With some pressure to sell, the price gave way from 38½ fl. to 37½ fl. The large holders coming to the rescue, there was a rapid advance to 39½ fl., which is our closing quotation. On Monday, the 11th prox., a public sale, comprising 13,000 peculs, will take place at Batavia. The position of Banca tin in Holland on July 29, according to the official returns of the Dutch Trading Company, was:—

	1879.	1878.	1877.
Import in July.....Slabs	4,832	28,850	41,727
Total seven months.....Slabs	59,158	79,544	114,197
Deliveries in July.....Slabs	10,819	7,800	6,531
Total seven months.....Slabs	77,351	67,475	75,429
Stock second hand.....Slabs	62,196	48,813	47,431
Unsold stock.....Slabs	22,029	28,850	45,208
Total stock.....Slabs	84,225	77,663	92,639
Afloat.....Peculs	7,200	3,000	1,900
Statement of Billiton:—			
Import in July.....Slabs	6,210	10,830	15,903
Total seven months.....Slabs	64,036	66,075	70,045
Deliveries in July.....Slabs	10,848	8,684	7,043
Total seven months.....Slabs	59,607	51,318	50,775
Stock.....Slabs	59,041	54,236	51,285
Afloat.....Peculs	18,000	13,000	6,000
Quotation Banca.....38½ fl.		39½ fl.	41 fl.
July 31. Billiton.....37½ fl.		37½ fl.	39½ fl.

These combined returns of Banca and Billiton for 1879, compared with those for 1878, exhibit—A decrease of the import for July of 594 tons; an increase of the import for the seven months of 254 tons; an increase of the deliveries for July of 162 tons; an increase of the deliveries for the seven months of 558 tons; an increase of the stock second hand of 568 tons; a decrease of the unsold stock of 215 tons; an increase of the total stock of 355 tons; a decline in the quotation of Banca of 15s. per ton. The Government Returns for May are—

EXPORT OF TIN FROM HOLLAND.		Five months.	
1879.	1878.	1879.	1878.
Germany.....Tons	136	1141	1521
England.....Tons	188	370	59
Belgium.....Tons	129	135	652
France.....Tons	50	145	145
Hamburg.....Tons	20	70	128
United States.....Tons	164	10	10
Other countries.....Tons	11	88	73
Total.....Tons	698	2619	2897

Rotterdam, July 31. HERRING AND HAVELAAR.

THE COPPER TRADE.

Stocks in Europe:—		Tons.
Chillares and regulus, Liverpool & Swansea (equal to fine).		3,754
Chillars in Liverpool		23,599
Chillars in Swansea		3,101
Foreign copper (chiefly Australian) in London		5,833
Chillars in London		454
English copper in London		60
Chillars and ingots and Barilla in Havre		4,753
Other copper in Havre		850 = 42,413
Afloat and chartered from Chili to Europe (advised by mail):—		
Ores and regulus (equal to fine).		1,912
Bars and ingots (equal to fine).		6,788 = 8,700
Afloat from Australia (advised by mail):—		
Fine copper		819
Afloat and chartered from Chili to Europe (advised by cable):—		
Fine copper		5,100
Total.....Tons		57,032

Leadenhall-street, August 1. HENRY R. MERTON AND CO.

Chili copper charters for the second half of July were 2800 tons fine. During that period 1500 tons bars here sold at 54s. 5s. down to 53s. 5s. per ton, being the lowest price ever known. The other sales comprise about 550 tons Spanish precipitate at 11s. per unit; 250 tons English precipitate at 11s. 3d. to 11s. 4s.; 825 tons Chili regulus to arrive at Swansea, and 530 tons here at 11s.; 333 tons Cape ore at 10s. 8d.; 543 tons at 10s. 4d.; 490 tons New Quebrada ore at 10s. 7d.; and at the Swansea sale by tender on the 22nd inst. 1449 tons ore, average produce 10 1/2 per cent., realised 10s. 4 1/2d. per unit. The 1146 tons Walaroo copper referred to in our last was subsequently disposed of at sellers' limit. Imports of Chili copper during the past fortnight were 2100 tons fine; delivery, 2017 tons fine. Arrivals here during the fortnight of West Coast, S.A., produce: Cotopaxi (s) from Valparaiso, 512 tons bars, 75 tons ingots; Battle Axe, from Totorillo, 227 tons regulus, 187 tons bars; Britannia (s), from Valparaiso, 950 tons bars, 110 tons ingots; Ehen, from Valparaiso, 190 tons bars. At Swansea: Nil. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

Ores.		Regulus.	Bars.	Ingots.	Barilla.
Liverpool.....Tons	906	1433	23,599	—	—
Swansea.....Tons	906	5505	3,101	—	—
Total.....Tons	906	7938	26,700	—	—

Representing about 30,454 tons fine copper, against 30,365 tons July 15; 22,651 tons July 31, 1878; 16,884 tons July 31, 1877; 13,942 tons July 31, 1876. Stock of copper contained in other foreign ore and Spanish precipitate, 2415 tons fine. Stock of Chili copper in Havre, 4489 tons fine, against 8163 tons July 31, 1878; stock of Coro Coro barilla in Havre, 350 tons fine, against 2995 tons July 31, 1878; stock of Chili copper afloat and chartered for to date, 17,000 tons fine, against 8,500 tons July 31, 1878. Stock of foreign copper in London, chiefly Australian, 6400 tons fine, against 6541 tons July 31, 1878.

Liverpool, July 31. HARRINGTON, HOBAN, AND CO.

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Stannaries of Cornwall.
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TO BE SOLD, pursuant to an Order made in the above Cause, dated the 23rd day of May, 1879, BY PUBLIC AUCTION, at the above-named Mines, in the parish of St. Enoder, within the said Stannaries, on Monday, the 11th day of August next, commencing at Eleven o'clock in the forenoon, either together or in such Lots, and subject to such conditions, as shall be then and there stated, the undermentioned

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36 inch horizontal double cylinder PUMPING and STAMPING ENGINE complete, with TWO 10 ton BOILERS, 10 ton weighbridge, one balance and other bobs, crab winch, pitwork of various sizes, 40 feet shears, with two 6 feet sheaves, three horse whips, beam, stays and stand, new 12 ft. stamps axl., seven stamps heads, lifters, stamps, frames, fly wheels, rail iron, launders of various sizes, dressing bobbles, with strips, dressing tools, and numerous other effects in general use in mines.

The above may be inspected on application to the Bailiff in charge thereof at the mine.
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— ditto.....	50	8 8 0	ditto	
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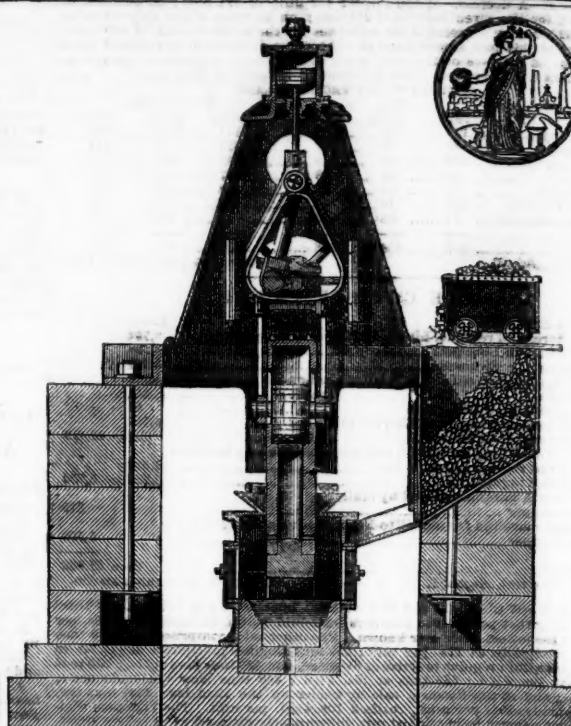
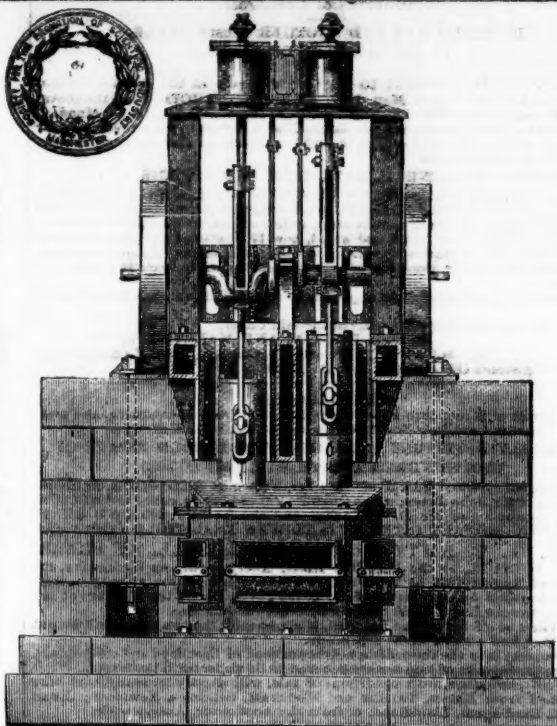
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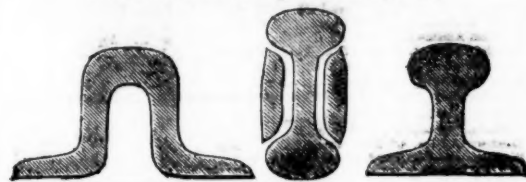
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